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E82-10158  
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SR-L1-04122  
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Agriculture and  
Resources Inventory  
Surveys Through  
Aerospace  
Remote Sensing

July 1981

## Supporting Research

### U.S. CROP CALENDARS IN SUPPORT OF THE EARLY WARNING PROJECT

T. Hodges

(E82-10158) AGRISTARS: SUPPORTING  
RESEARCH. US CROP CALENDARS IN SUPPORT OF  
THE EARLY WARNING PROJECT (Lockheed  
Engineering and Management) 134 p  
HC A07/MF A01

N82-21682

CSCL 05B G3/43 00158 Unclassified

Lockheed Engineering and Management Services Company, Inc.  
Houston, Texas 77058



Lyndon B. Johnson Space Center  
Houston, Texas 77058

1. Report No. SR-L1-04122, JSC-17402	2. Government Accession No.	3. Recipient's Catalog No.	
4. Title and Subtitle  U.S. Crop Calendars in Support of the Early Warning Project		5. Report Date July 1981	
6. Author(s) T. Hodges Lockheed Engineering and Management Services Company, Inc.		7. Performing Organization Code	
8. Performing Organization Name and Address  Lockheed Engineering and Management Services Company, Inc. 1830 NASA Road 1 Houston, Texas 77058		9. Performing Organization Report No. LEMSCO-14674	
10. Work Unit No.			
		11. Contract or Grant No. NAS 9-15800	
		12. Type of Report and Period Covered Technical Report	
		13. Sponsoring Agency Code	
14. Supplementary Notes			
15. Abstract  The appendices in this report provide the following data. Appendix A contains United States crop calendars produced for the Large Area Crop Inventory Experiment (LACIE). Appendix B contains crop calendar samples for Colorado, Iowa, Kansas, Minnesota, Montana, Nebraska, North Dakota, South Dakota, and Texas; these calendars are based on weekly Crop Reporting District (CRD) level observations of the percentage of various crops at several growth stages. Appendix C contains a sample of the statistical treatments of the weekly data. Appendix D contains 4 to 5 years of 50-percent dates for stages on a CRD level for Arkansas, Iowa, Kentucky, Louisiana, Michigan, Mississippi, Ohio and Wisconsin.			
16. Key Words (Suggested by Author(s))  LACIE Normal crop calendars		17. Distribution Statement	
18. Security Classif. (of this report)  Unclassified	19. Security Classif. (of this page)  Unclassified	20. No. of Pages 133	21. Price*

\*For sale by the National Technical Information Service, Springfield, Virginia 22161

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SR-L1-04122  
JSC-17402

U.S. CROP CALENDARS IN SUPPORT OF THE EARLY WARNING PROJECT

Job Order 71-302

This report describes Vegetation/Soils/Field Research activities  
of the Supporting Research project of the AGRISTARs program.

PREPARED BY

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APPROVED BY

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Development and Evaluation Department

LOCKHEED ENGINEERING AND MANAGEMENT SERVICES COMPANY, INC.

Under Contract NAS 9-15800

For

Earth Resources Research Division  
Space and Life Sciences Directorate  
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION  
LYNDON B. JOHNSON SPACE CENTER  
HOUSTON, TEXAS

July 1981

LEMSCO-14674

PREFACE

The Agriculture and Resources Inventory Surveys Through Aerospace Remote Sensing is an 8-year program of research, development, evaluation, and application of aerospace remote sensing for agricultural resources, which began in fiscal year 1980. This program is a cooperative effort of the National Aeronautics and Space Administration, the U.S. Agency for International Development, and the U.S. Departments of Agriculture, Commerce, and the Interior.

The work which is the subject of this document was performed within the Earth Resources Division, Space and Life Sciences Directorate, at the Lyndon B. Johnson Space Center, National Aeronautics and Space Administration. Under Contract NAS 9-15800, personnel of Lockheed Engineering and Management Services Company, Inc., performed the tasks which contributed to the completion of this research.

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## SUMMARY

The appendices in this report provide the following data. Appendix A contains United States crop calendars produced for the Large Area Crop Inventory Experiment (LACIE). Appendix B contains crop calendar samples for Colorado, Iowa, Kansas, Minnesota, Montana, Nebraska, North Dakota, South Dakota, and Texas; these calendars are based on weekly Crop Reporting District (CRD) level observations of the percentage of various crops at several growth stages. Appendix C contains a sample of the statistical treatments of the weekly data. Appendix D contains 4 to 5 years of 50-percent dates for stages on a CRD level for Arkansas, Iowa, Kentucky, Louisiana, Michigan, Mississippi, Ohio, and Wisconsin.

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Hodges, T.; Sestak, M. L.; and Trenchard, M. H.: Crop Calendars for the U.S.,  
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Sestak, M. L.; Hodges, T; and Artley, J. A.: Variability of Crop Calendar  
Stage Dates. LEMSCO-14070, NASA/JSC (Houston), 1980.

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TABLE 1.- CROP AND GROWTH STAGE IDENTIFICATION NUMBERS

Numbers	Crops	Stages								
		1.0	2.0	2.5	3.0	3.5	4.0	5.0	6.0	7.0
1	Corn	Planting	Floral initiation		Tasseling or silking		Bent	Maturity	Harvest	
2	Soybeans	Planting	Rapid nodal development	Bloom	Podding		Full seed	Maturity	Harvest	
3	Sorghum	Planting	Full fifth leaf		Half bloom		Dough	Maturity	Harvest	
4	Small grains	Planting	Emergence	Tillering	Jointing	Flag leaf	Heading	Dough	Maturity	Harvest
5	Spring wheat									
6	Winter wheat									
7	Oats									
8	Barley									
9	Rye									
10	Rice									
11	Alfalfa	First cutting	Second cutting							
12	Other hay	First cutting	Second cutting							
	Cotton	Planting	First square		First bloom		Setting bolls	Open bolls	Harvest	

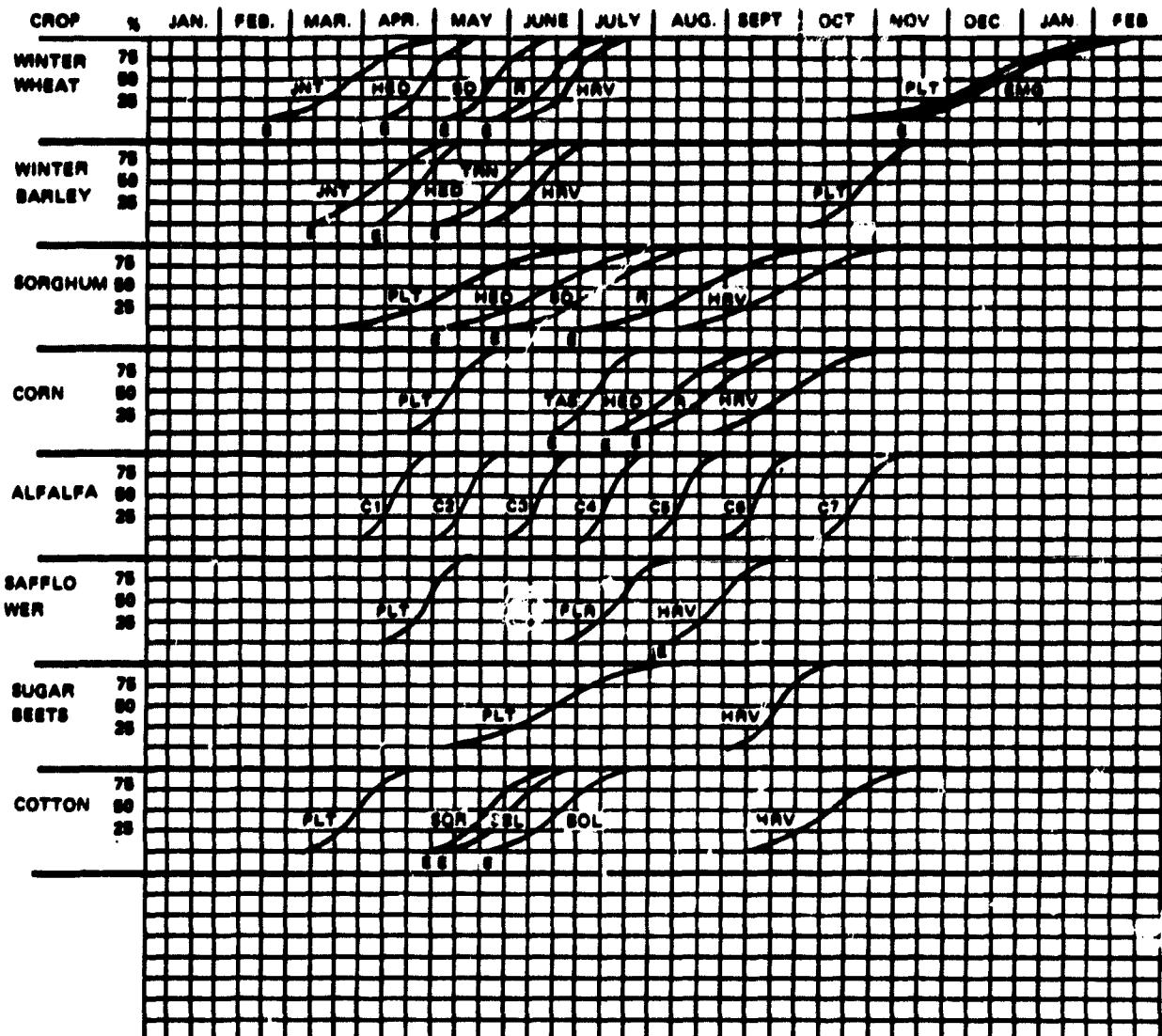
TABLE 2.- STATE IDENTIFICATION NUMBERS

Colorado (8)	Iowa (19)	Kansas (20)	Minnesota (27)	Montana (30)	Nebraska (31)	North Dakota (38)	South Dakota (46)	Texas (48)
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**APPENDIX A  
REPUBLISHED CROP CALENDARS  
FROM LACIE**

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CROP CALENDARS PLOTTED 01/08/78  
PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR  
ARIZONA CRD 5 ESTIMATED AVERAGE CROP CALENDARS FROM USDA BULLETIN 203

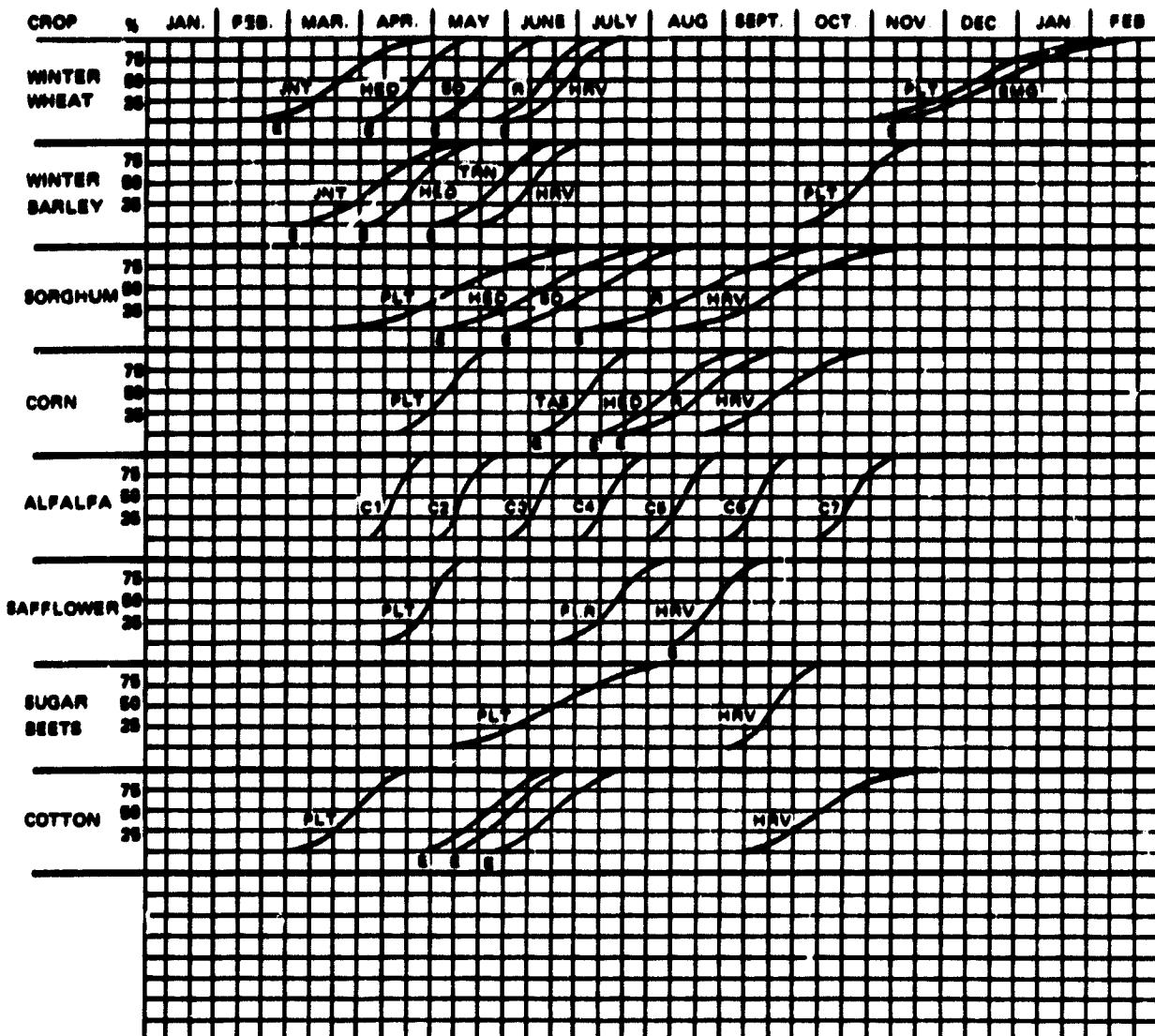


**LEGEND**

E	Under stage name, indicates rough estimate of date
EMG	Emergence
HED	Heading
HRV	Harvest
JNT	Jointing
PLT	Planting
R	Ripe
SD	Soft dough
TRN	Turning
C	Cut
FLR	Flowering
SQR	Squaring
SBL	Soft ball
BOL	Bolling

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CROP CALENDARS PLOTTED 01/09/78  
PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR  
ARIZONA CRD 7 ESTIMATED AVERAGE CROP CALENDARS FROM USDA BULLETIN 283

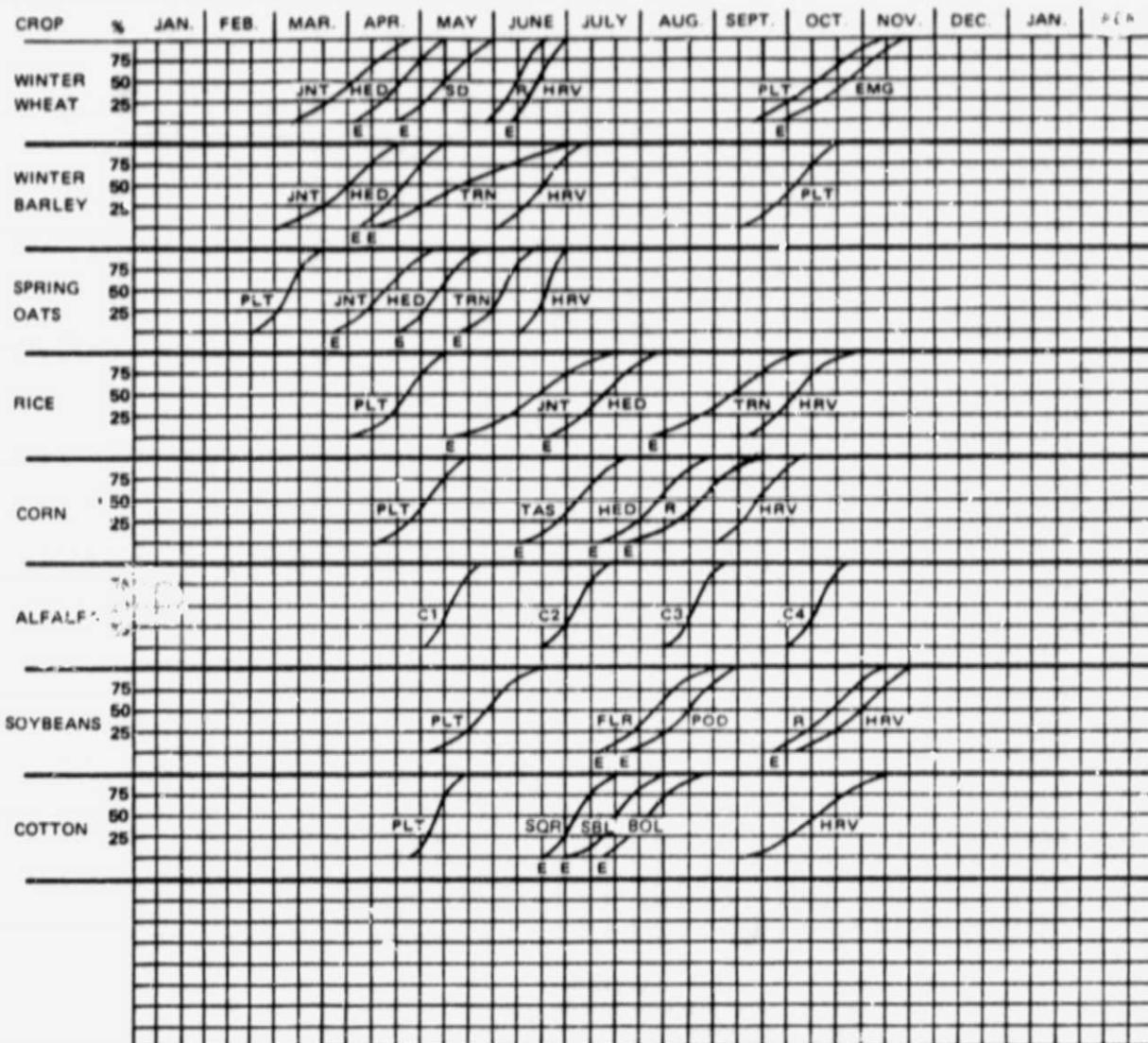


LEGEND

E	Under stage name, indicates rough estimate of date
EMG	Emergence
HED	Heading
HIV	Harvest
J-T	Jointing
PLT	Planting
R	Ripe
SD	Soft dough
TRN	Turning
C	Cut
BOL	Bolling
TAS	Tasseling
SQR	Squaring
SSL	Soft bell

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CROP CALENDARS PLOTTED 01/06/76  
PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR  
ARKANSAS CRD 6 ESTIMATED AVERAGE CROP CALENDARS FROM USDA BULLETIN 283

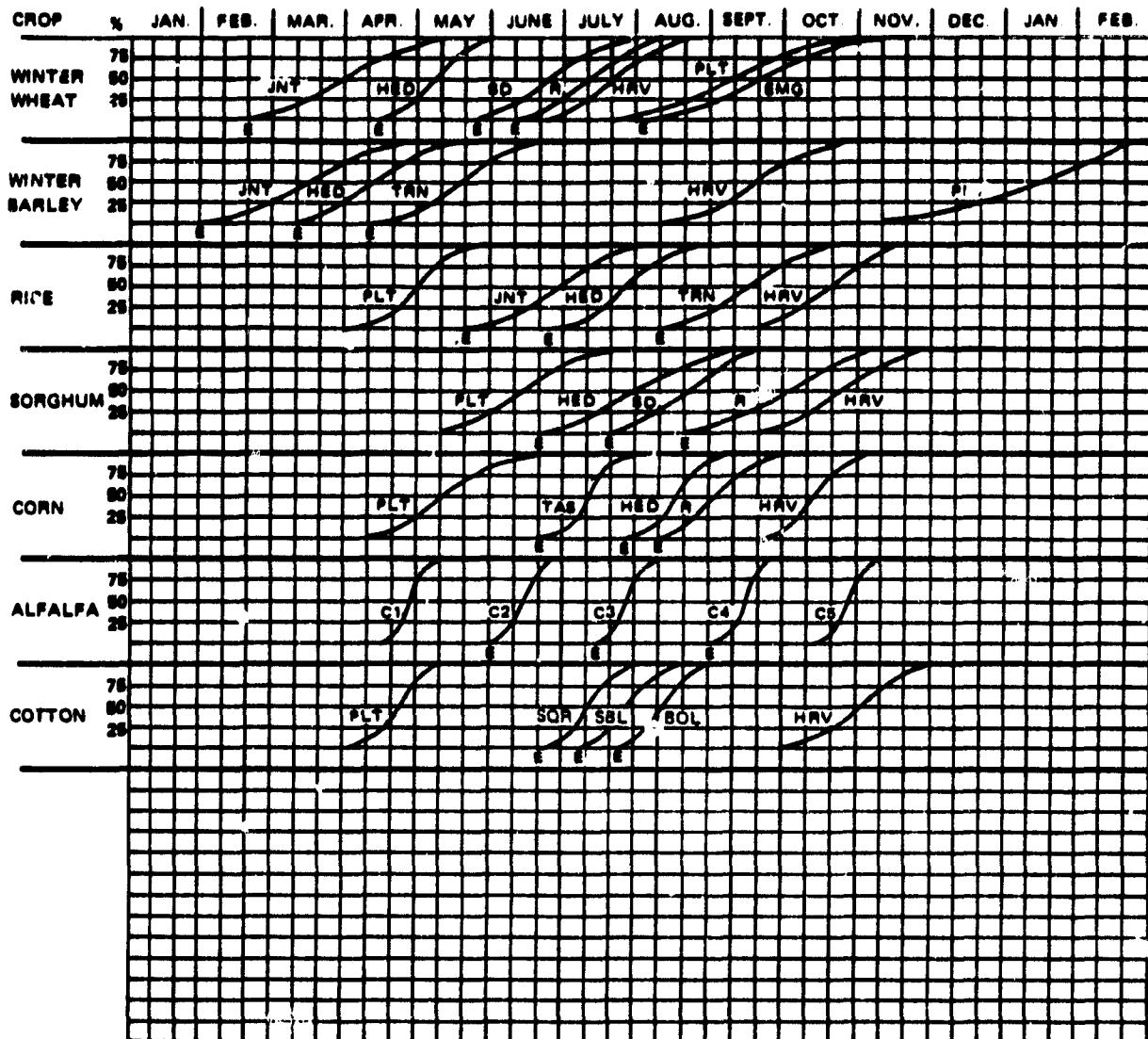


#### LEGEND

- E Under stage name, indicates rough estimate of date
- EMG Emergence
- HED Heading
- HRV Harvest
- JNT Jointing
- PLT Planting
- R Ripe
- SD Soft dough
- TRN Turning
- C Cut
- FLR Flowering
- TAS Tasseling
- SQR Squaring
- SBL Soft bolling
- BOL Bolling

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CROP CALENDARS PLOTTED 01/06/76  
PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR  
CALIFORNIA CRD 51 ESTIMATED AVERAGE CROP CALENDARS FROM USDA BULLETIN 28

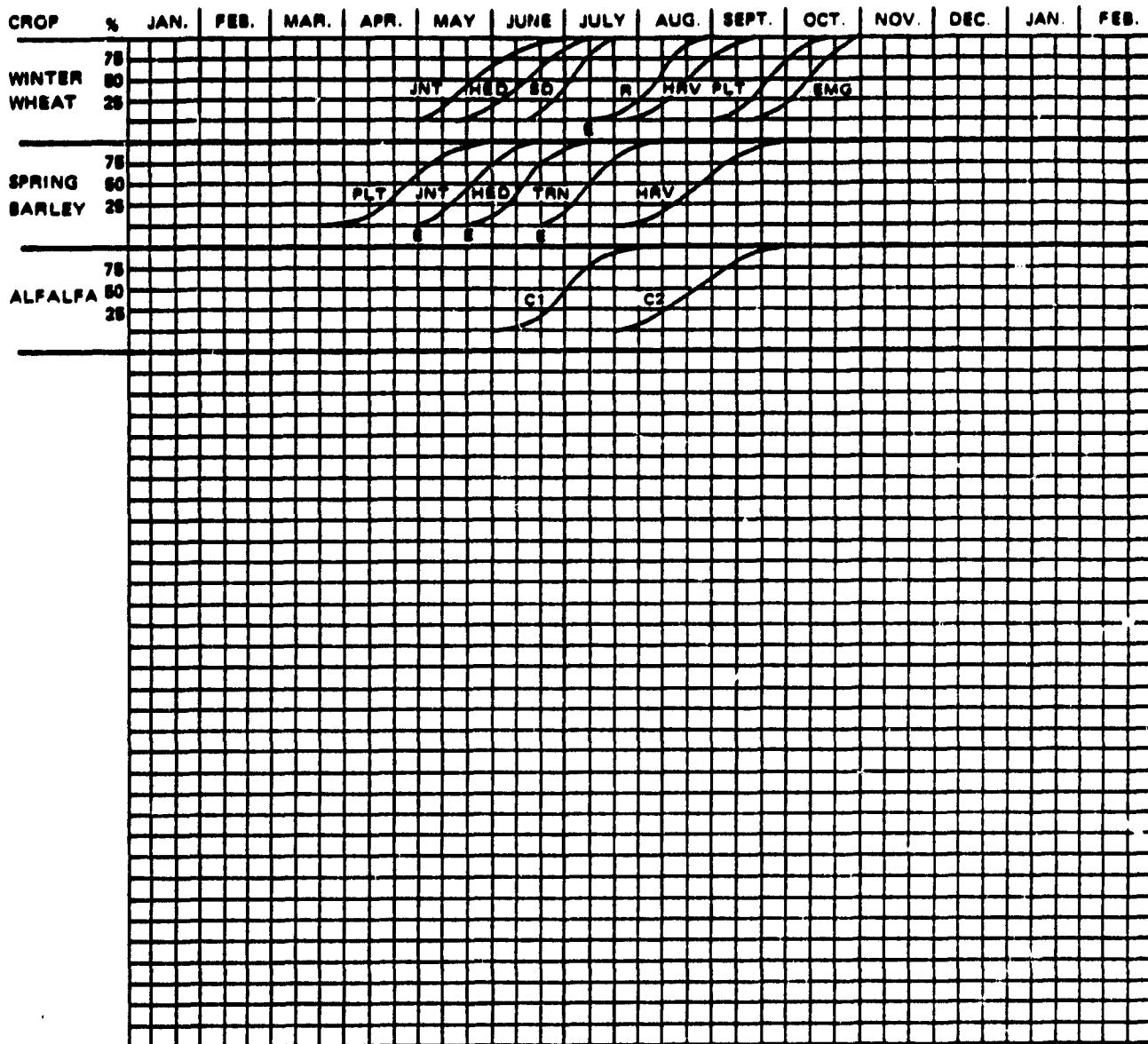


**LEGEND**

E	Under stage name, indicates rough estimate of date
EMG	Emergence
HED	Heading
HRV	Harvest
JNT	Joining
PLT	Planting
R	Ripe
SD	Soft dough
TRN	Turning
TAS	Tasseling
C	Cut
SQR	Squaring
SBL	Soft boll
BOL	Bolling

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CROP CALENDARS PLOTTED 01/08/76  
PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR  
COLORADO CRD 10 AVERAGE CROP CALENDARS FROM 1971 TO 1973

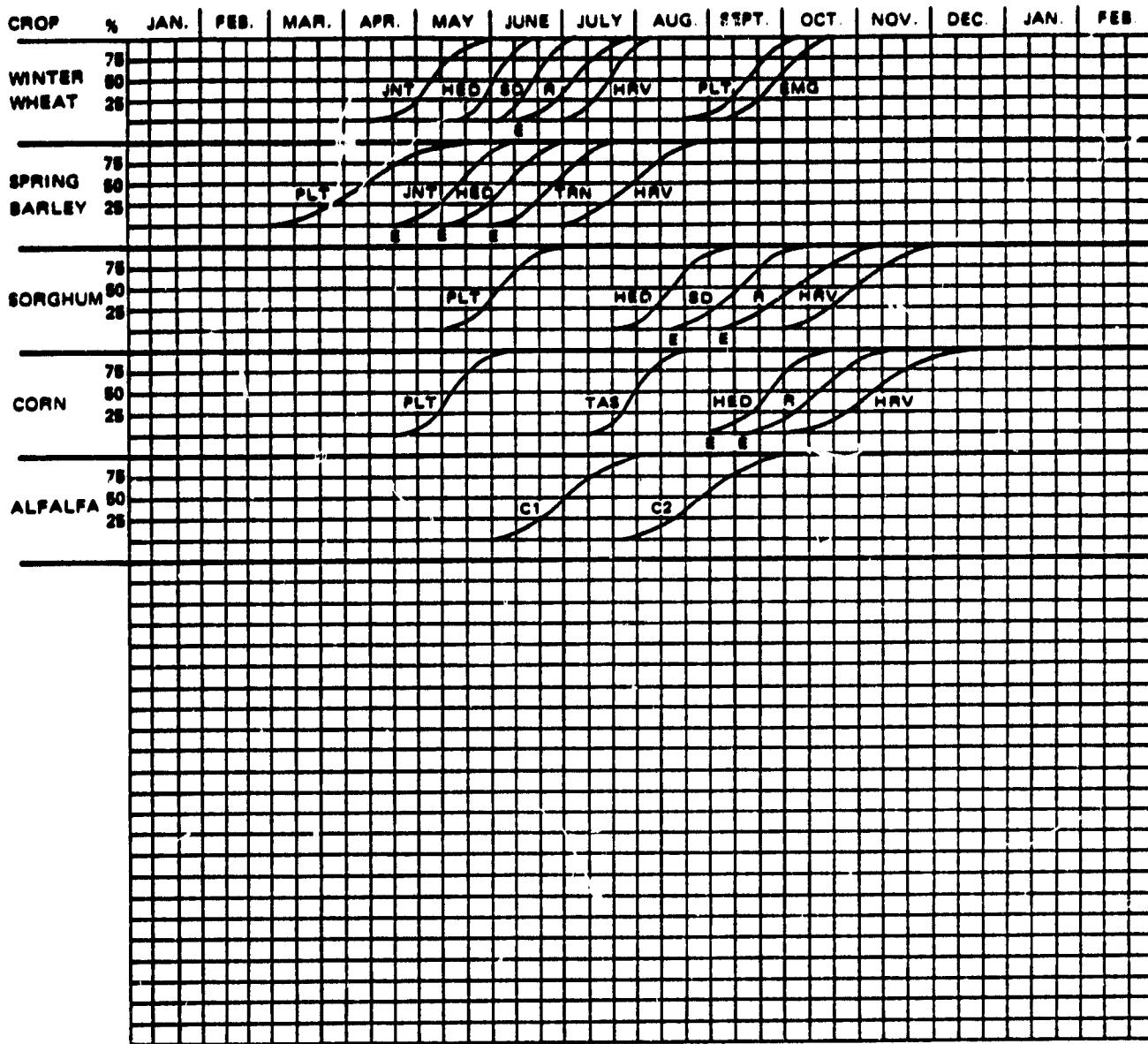


**LEGEND**

E	Under stage name, indicates rough estimate of date
EMG	Emergence
HED	Heading
HRV	Harvest
JNT	Jointing
PLT	Planting
R	Ripe
SD	Soft dough
TRN	Turning
C	Cut

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PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR  
COLORADO CRD 20 AVERAGE CROP CALENDARS FROM 1971 TO 1973

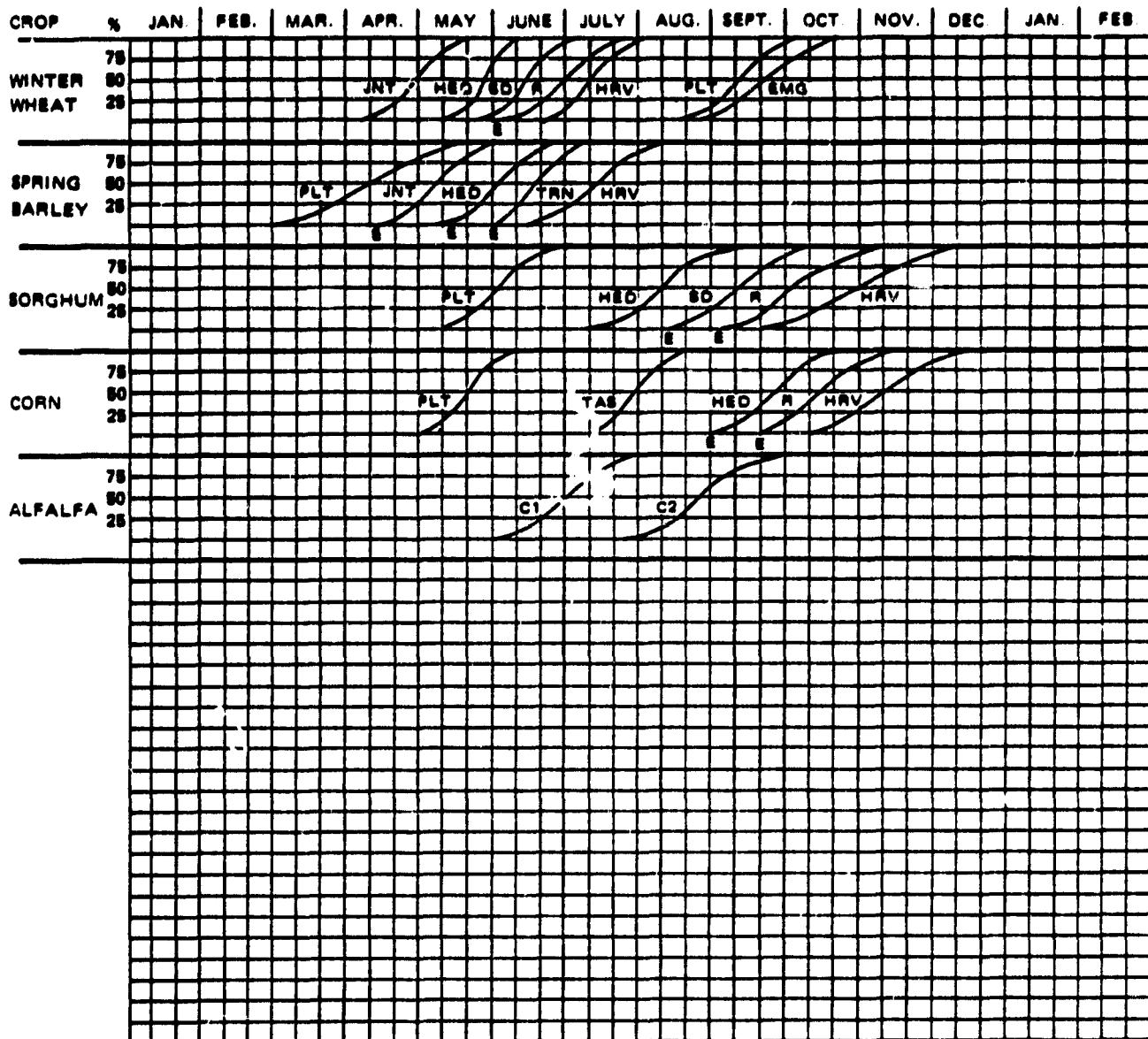


LEGEND

E	Under stage name, indicates rough estimate of date
EMG	Emergence
HED	Heading
HRV	Harvest
JNT	Jointing
PLT	Planting
R	Ripe
SD	Soft dough
TRN	Turning
TAS	Tasseling
C	Cut

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PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR  
COLORADO CRD 60 AVERAGE CROP CALENDARS FROM 1971 TO 1973

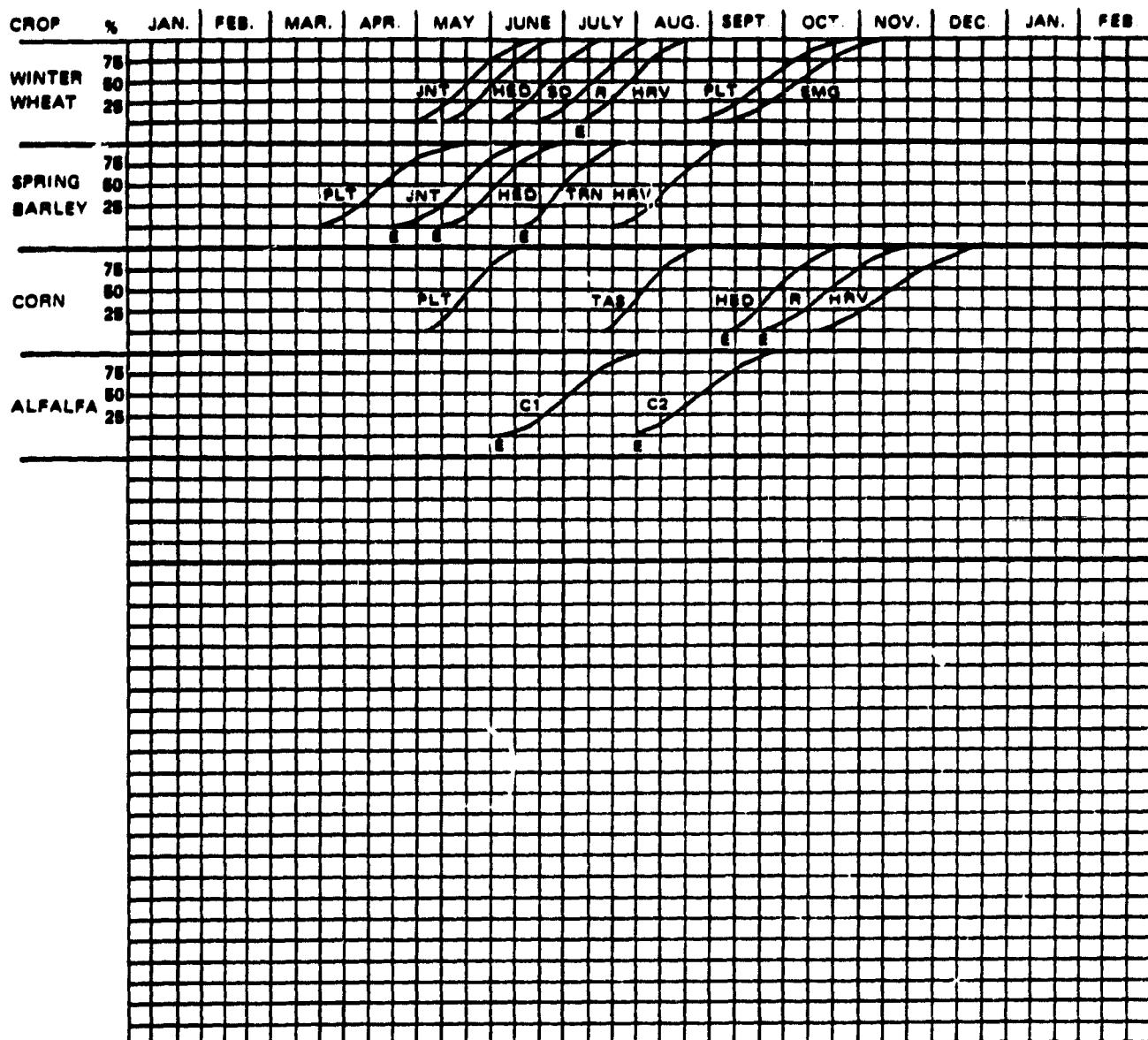


LEGEND

E	Under stage name, indicates rough estimate of date
EMG	Emergence
HED	Heading
HRV	Harvest
JNT	Jointing
PLT	Planting
R	Ripe
SD	Soft dough
TRN	Turning
TAS	Tasseling
C	Cut

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PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR  
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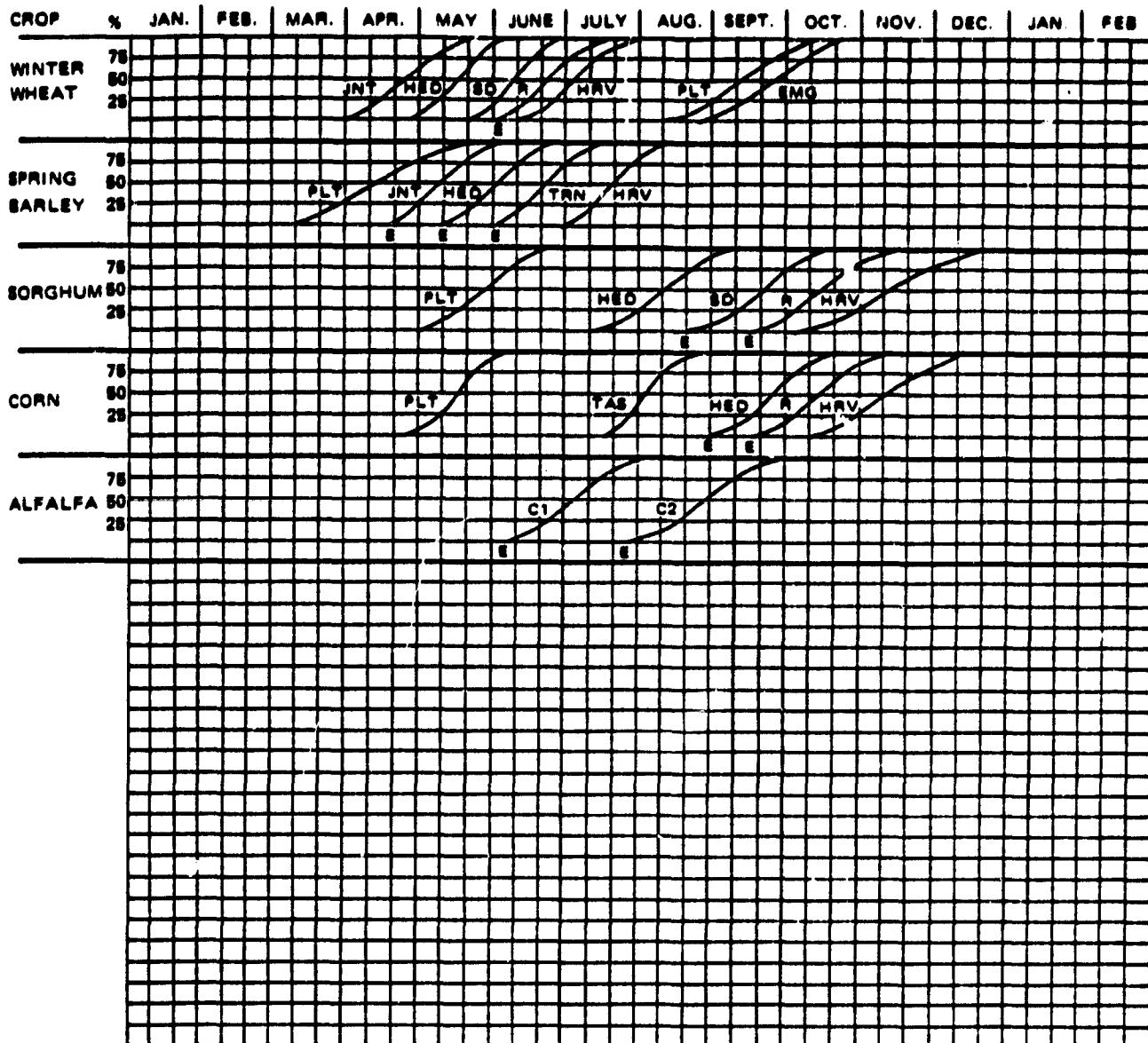


**LEGEND**

E	Under stage name, indicates rough estimate of date
EMG	Emergence
HED	Heading
HRV	Harvest
JNT	Jointing
PLT	Planting
R	Ripe
SD	Soft dough
TRN	Turning
TAS	Tesseling
C	Cut

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PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR  
COLORADO CRD 90 AVERAGE CROP CALENDARS FROM 1971 TO 1973

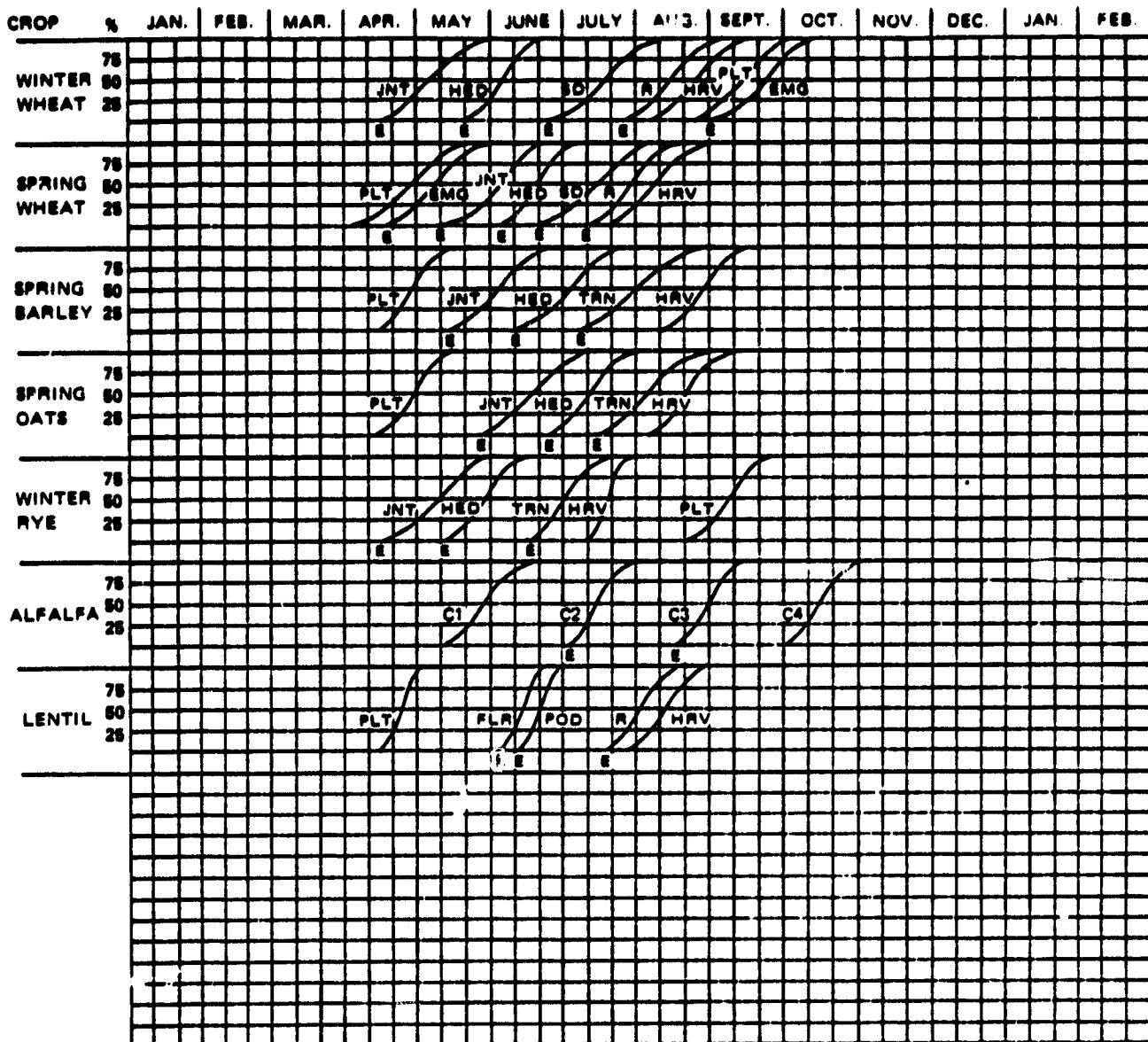


LEGEND

E	Under stage name, indicates rough estimate of date
EMG	Emergence
HED	Heading
HRV	Harvest
JNT	Jointing
PLT	Planting
R	Ripe
SD	Soft dough
TRN	Turning
C	Cut
TAS	Tasseling

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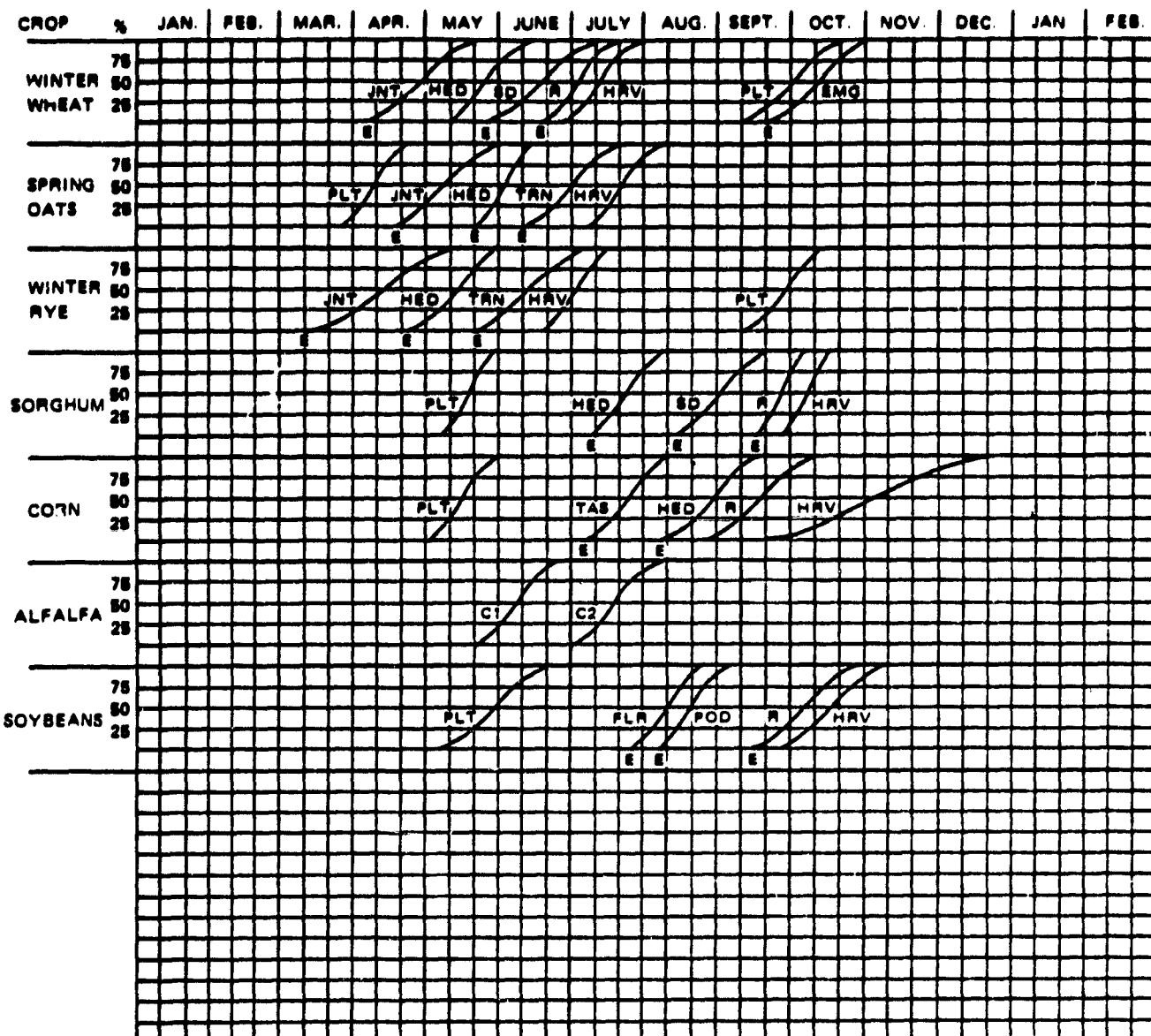


**LEGEND**

E	Under stage name, indicates rough estimate of date
EMG	Emergence
HED	Heading
HRV	Harvest
JNT	Jointing
PLT	Planting
R	Ripe
SD	Soft dough
TRN	Turning
C	Cut
FLR	Flowering

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PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR  
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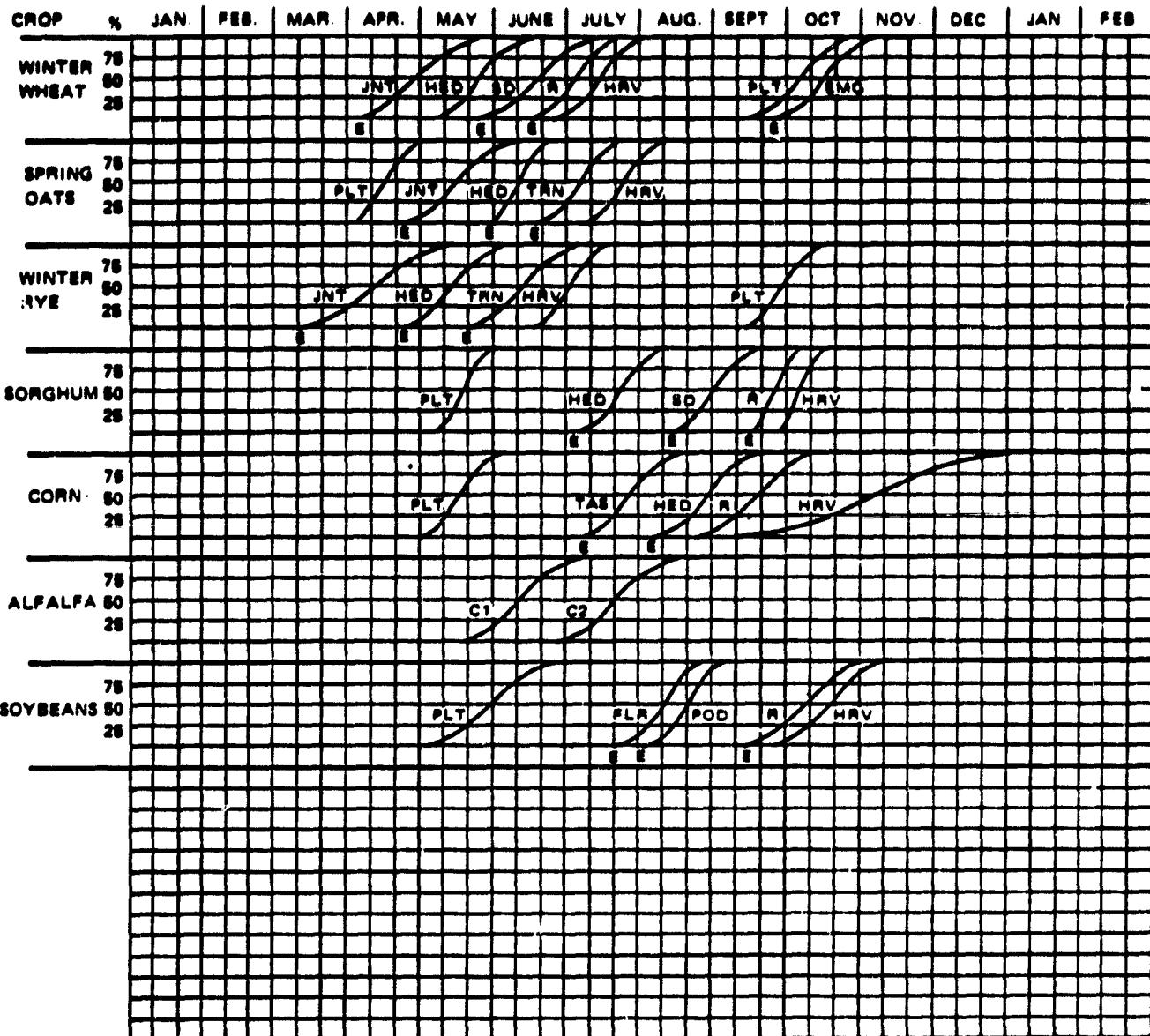


LEGEND

E	Under stage name, indicates rough estimate of date
EMG	Emergence
HED	Heading
HRV	Harvest
JNT	Jointing
PLT	Planting
R	Ripe
SD	Soft dough
TRN	Turning
TAS	Tasseling
C	Cut
FLR	Flowering

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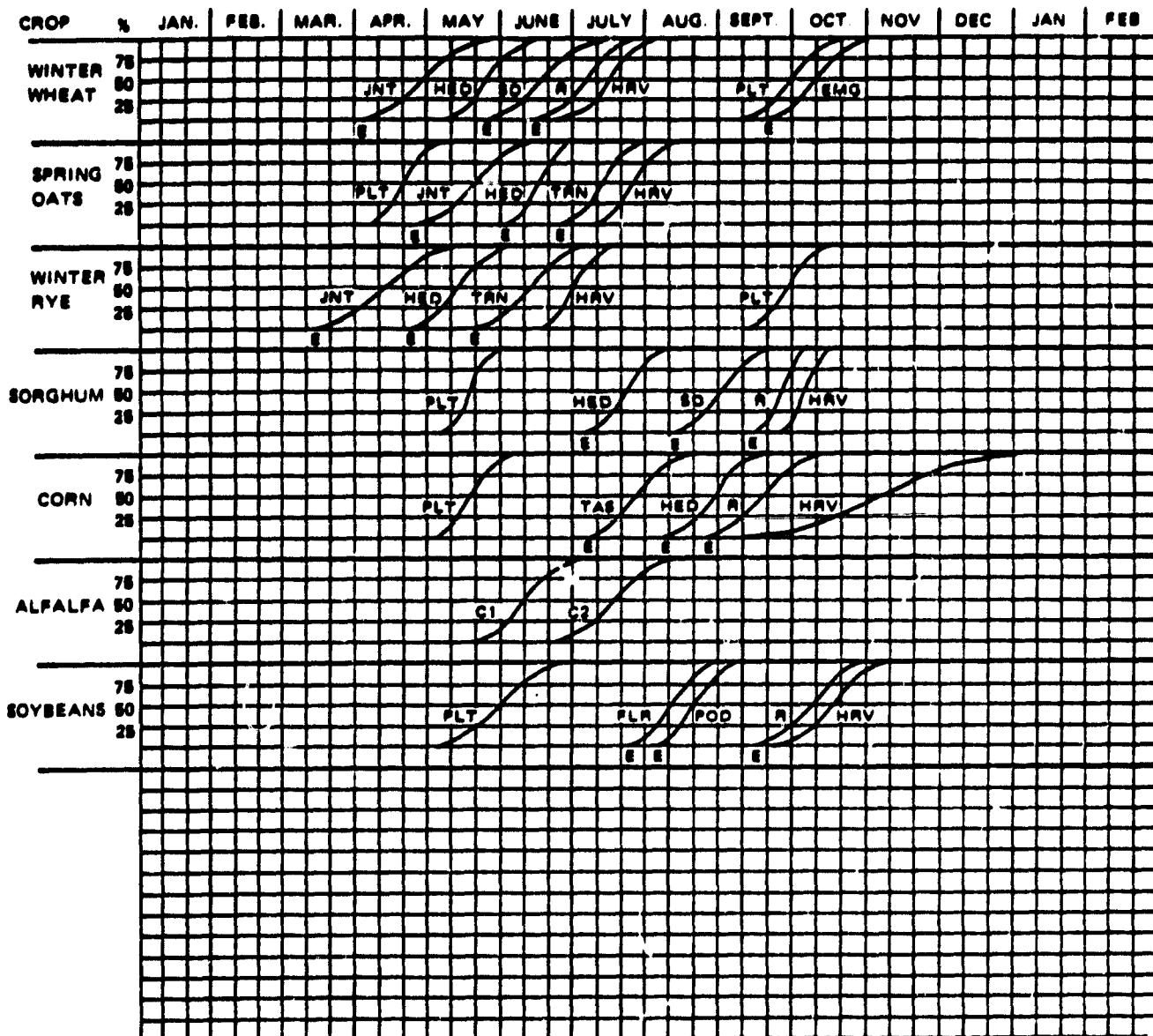


LEGEND

E	Under stage name, indicates rough estimate of date
EM	Emergence
HED	Heading
HRV	Harvest
JNT	Jointing
PLT	Planting
R	Ripe
SD	Soft dough
TRN	Turning
TAS	Tasseling
C	Cut
FLR	Flowering

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 PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR  
 INDIANA CRD 3 ESTIMATED AVERAGE CROP CALENDARS FROM USDA BULLETIN 283

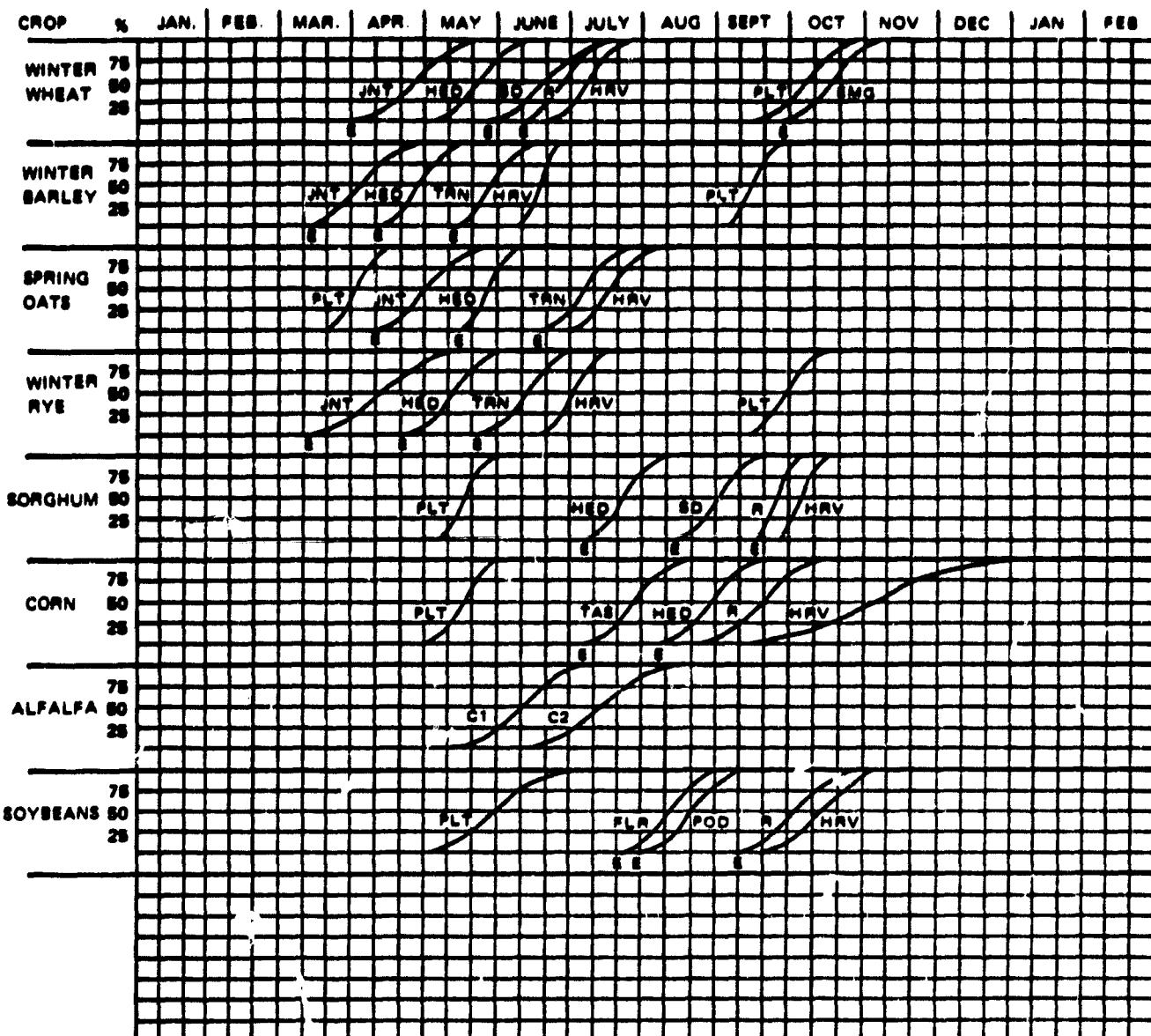


**LEGEND**

E	Under stage name, indicates rough estimate of date
EMG	Emergence
HED	Heading
HRV	Harvest
JNT	Jointing
PLT	Planting
R	Ripe
SD	Soft dough
TRN	Turning
TAS	Tasseling
C	Cut
FLR	Flowering

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PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR  
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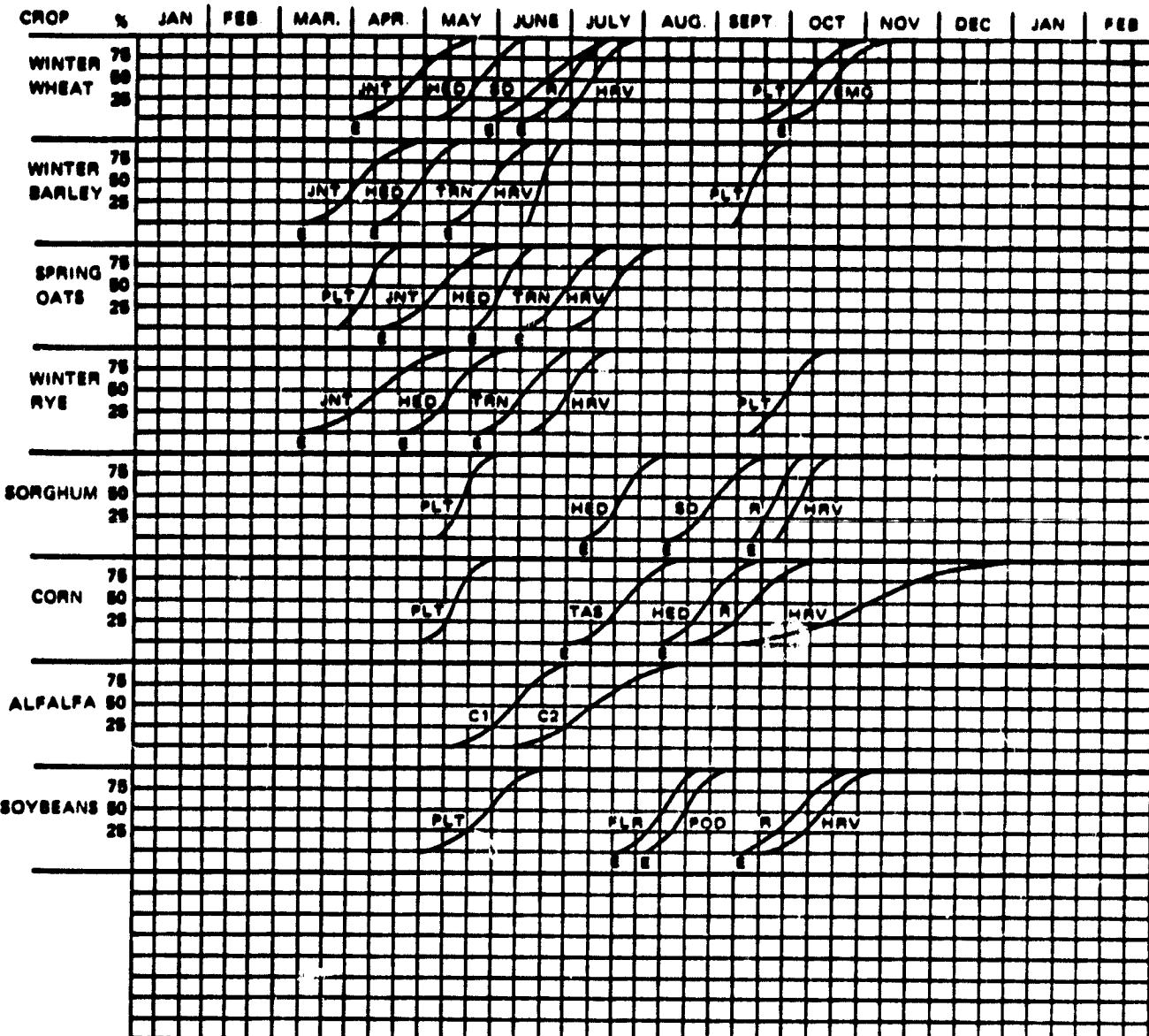


**LEGEND**

E	Under stage name, indicates rough estimate of date
EMG	Emergence
HED	Heading
HRV	Harvest
JNT	Jointing
PLT	Planting
R	Ripe
SD	Soft dough
TRN	Turning
TAS	Tasseling
C	Cut
FLR	Flowering

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CROP CALENDARS PLOTTED 01/06/76  
PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR  
INDIANA CRD & ESTIMATED AVERAGE CROP CALENDARS FROM USDA BULLETIN 283

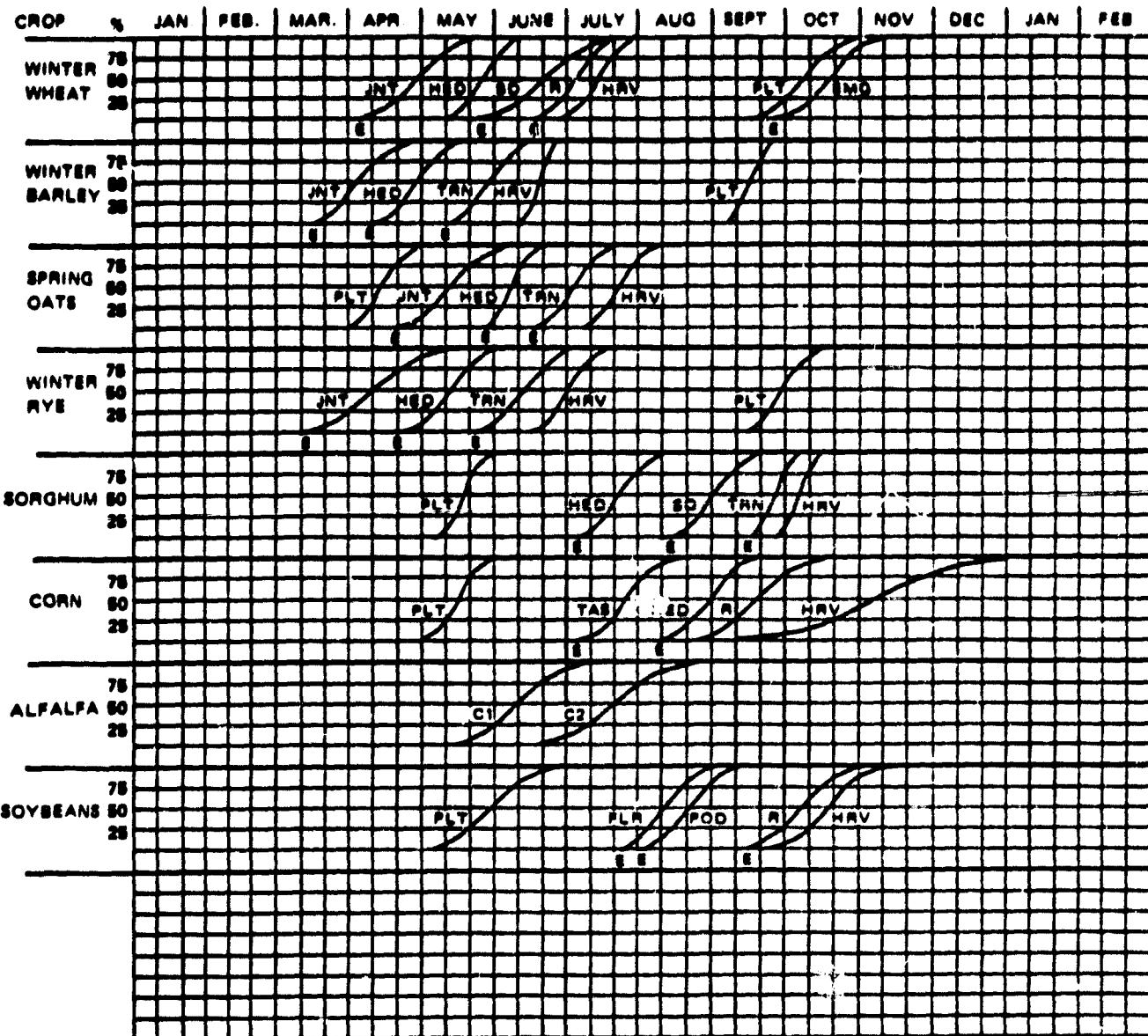


LEGEND

- E Under stage name, indicates rough estimate of date
- EMG Emergence
- HED Heading
- HRV Harvest
- JNT Jointing
- PLT Planting
- R Ripe
- SD Soft dough
- TRN Turning
- TAS Tasseling
- C Cut
- FLR Flowering

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CROP CALENDARS PLOTTED 01/06/76  
PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR  
INDIANA CRD & ESTIMATED AVERAGE CROP CALENDARS FROM USDA BULLETIN 283

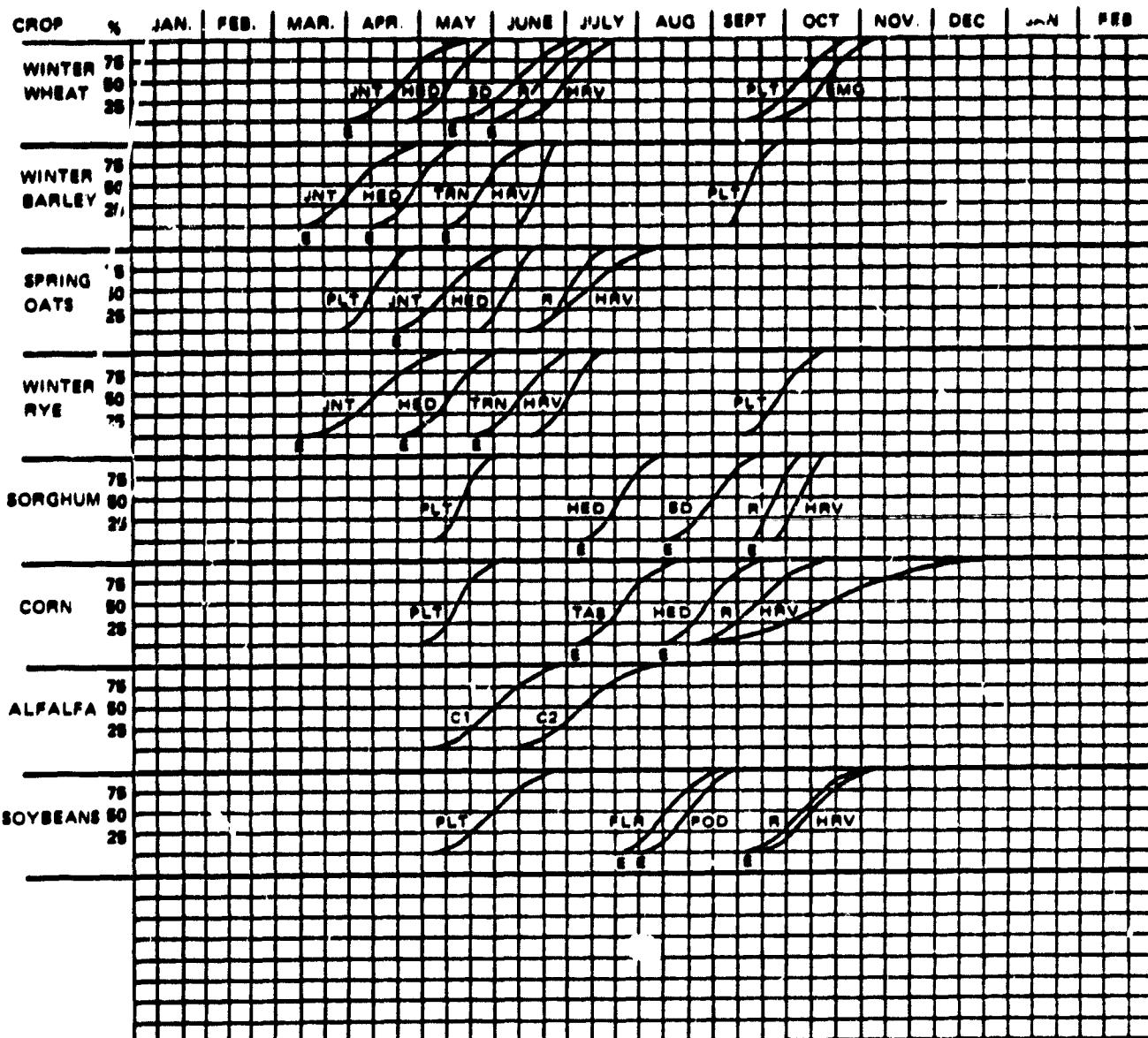


LEGEND

E	Under stage name, indicates rough estimate of date
EMG	Emergence
HED	Heading
HRV	Harvest
JNT	Jointing
PLT	Planting
R	Ripe
SD	Soft dough
TRN	Turning
TAS	Tasseling
C	Cut
FLR	Flowering

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PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR  
INDIANA CRO % ESTIMATED AVERAGE CROP CALENDARS FROM USDA BULLETIN 283

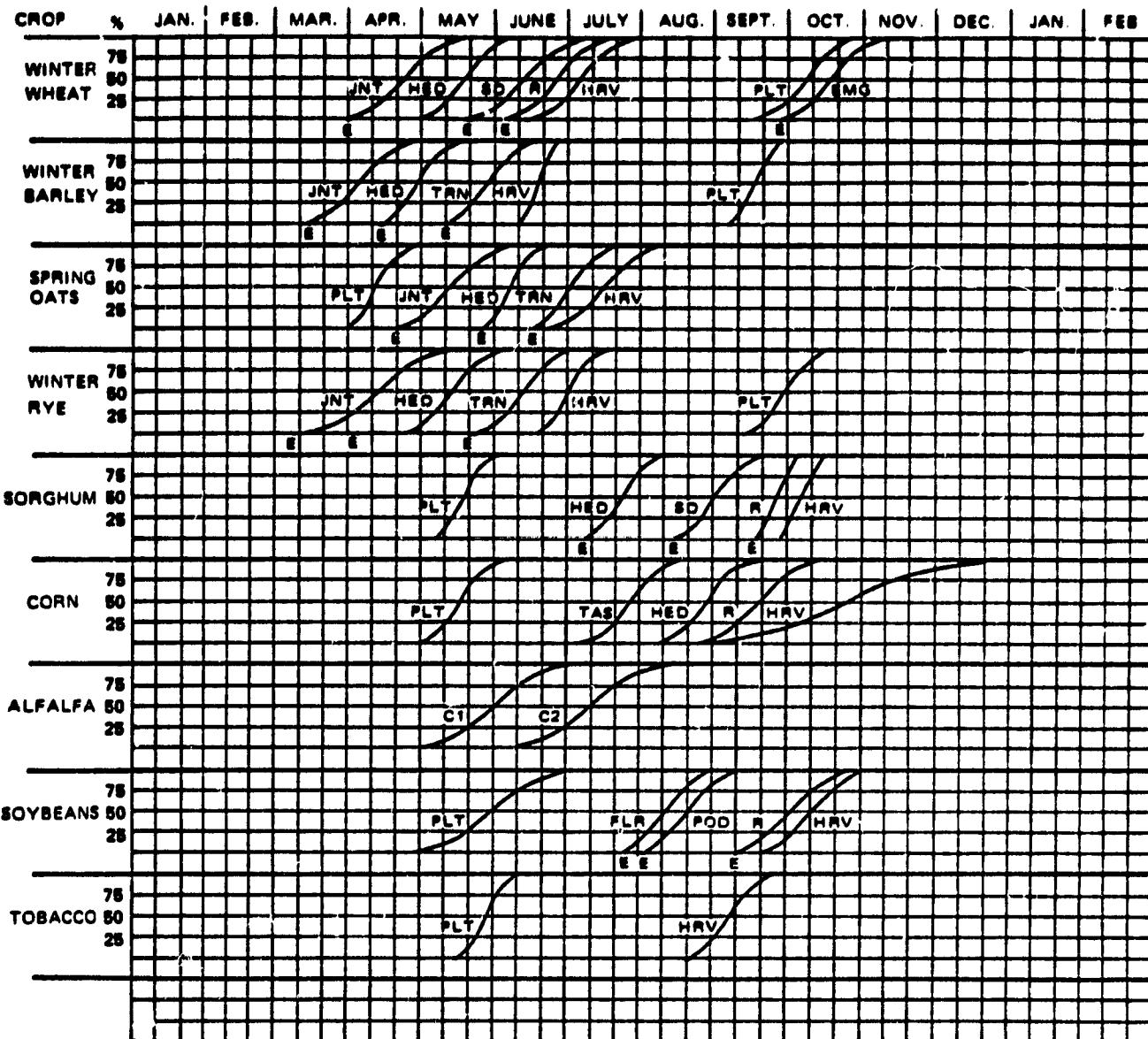


LEGEND

E	Under stage name, indicates rough estimate of date
EMG	Emergence
HED	Heading
HRV	Harvest
JNT	Jointing
PLT	Planting
R	Ripe
SD	Soft dough
TRN	Turning
TAS	Tasseling
C	Cut
FLR	Flowering

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CROP CALENDARS PLOTTED 01/06/76  
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INDIANA CRD & ESTIMATED AVERAGE CROP CALENDARS FROM USDA BULLETIN 283

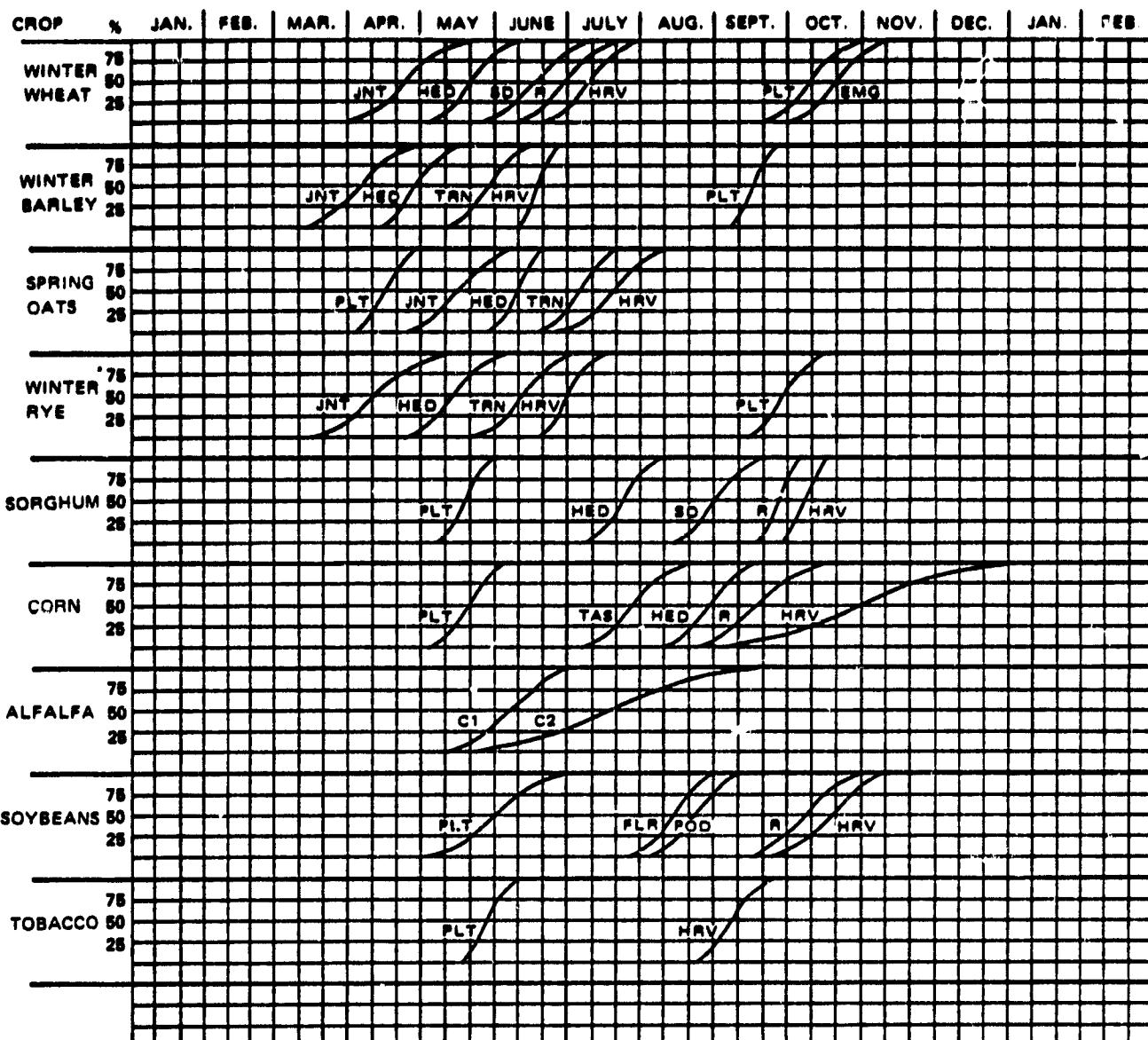


LEGEND

E	Under stage name, indicates rough estimate of date
EMG	Emergence
HED	Heading
HRV	Harvest
JNT	Jointing
PLT	Planting
R	Ripe
SD	Soft dough
TRN	Turning
TAS	Tasseling
C	Cut
FLR	Flowering

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CROP CALENDARS PLOTTED 01/06/78  
PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR  
INDIANA CRD & ESTIMATED AVERAGE CROP CALENDARS FROM USDA BULLETIN 283

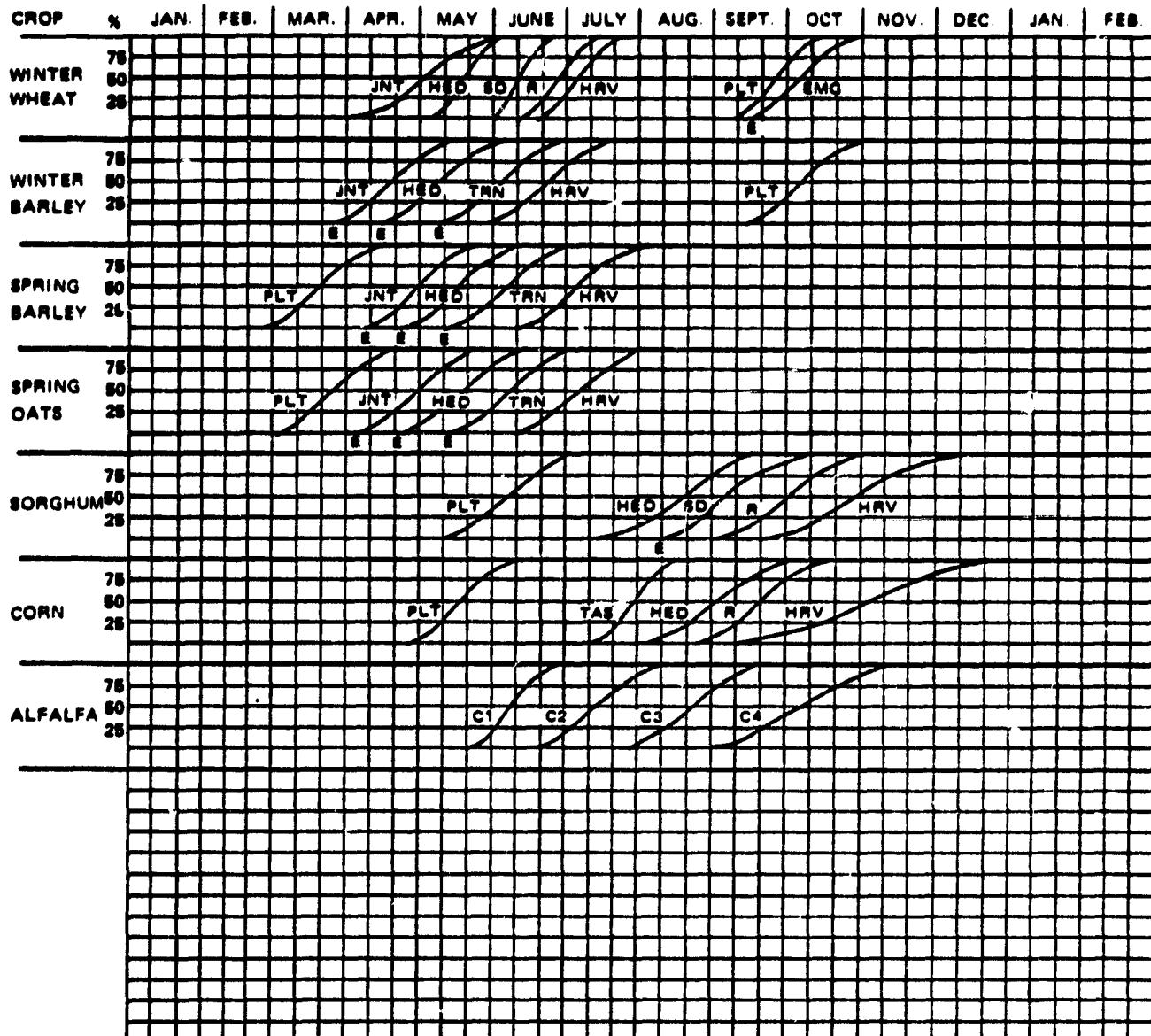


**LEGEND**

E	Under stage name, indicates rough estimate of date
EMG	Emergence
HED	Heading
HRV	Harvest
JNT	Jointing
PLT	Planting
R	Ripe
SD	Soft dough
TRN	Turning
TAS	Tasseling
C	Cut
FLR	Flowering

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CROP CALENDARS PLOTTED 01/06/78  
PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR  
KANSAS CRD 1 AVERAGE CROP CALENDARS FROM 1963 TO 1973

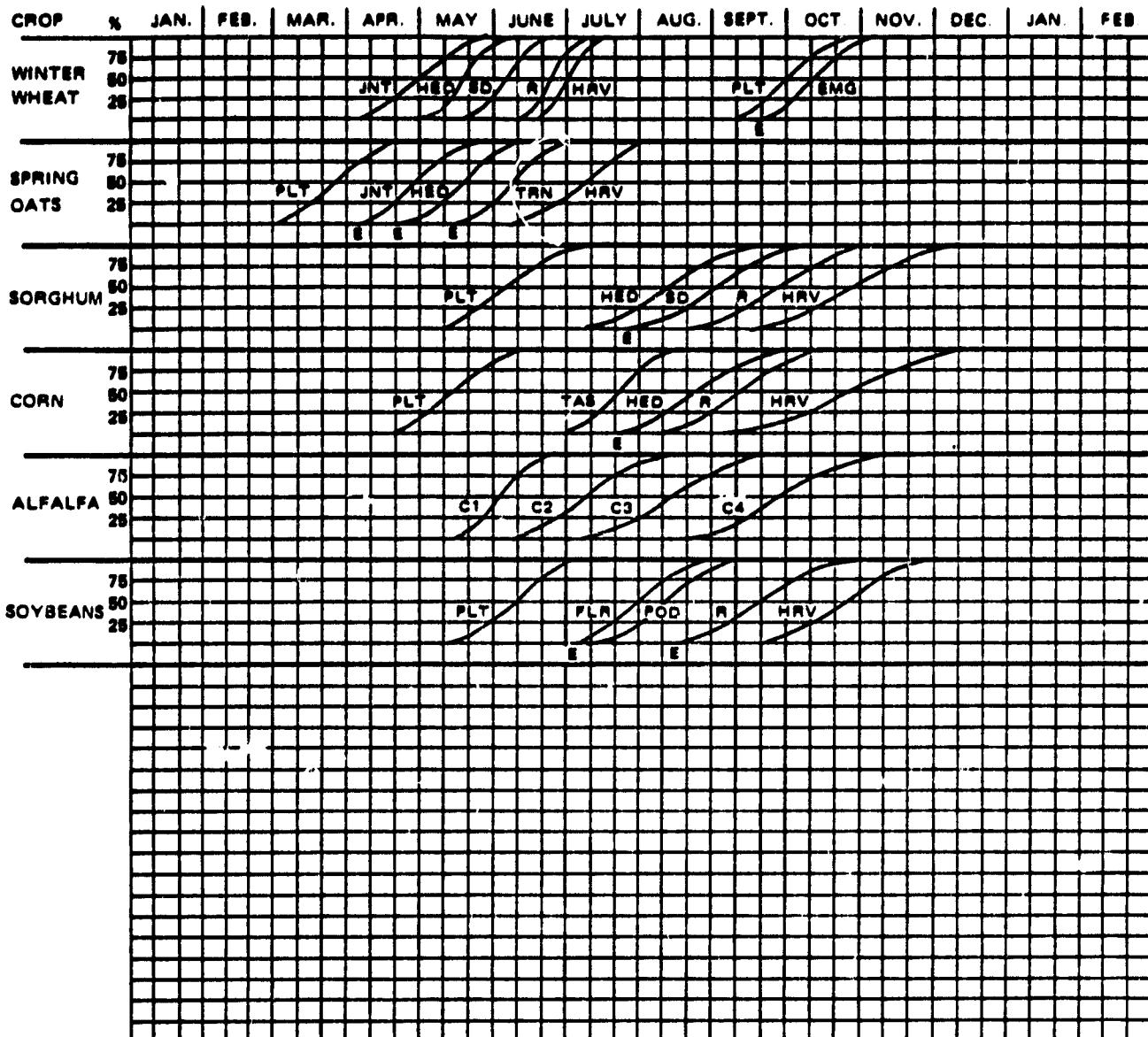


LEGEND

E	Under stage name, indicates rough estimate of date
EMG	Emergence
HED	Heading
HRV	Harvest
JNT	Jointing
PLT	Planting
R	Ripe
SD	Soft dough
TRN	Turning
TAS	Tasseling
C	Cut

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**CROP CALENDARS PLOTTED 01/06/76**  
**PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR**  
**KANSAS CRD 2 AVERAGE CROP CALENDARS FROM 1963 TO 1973**

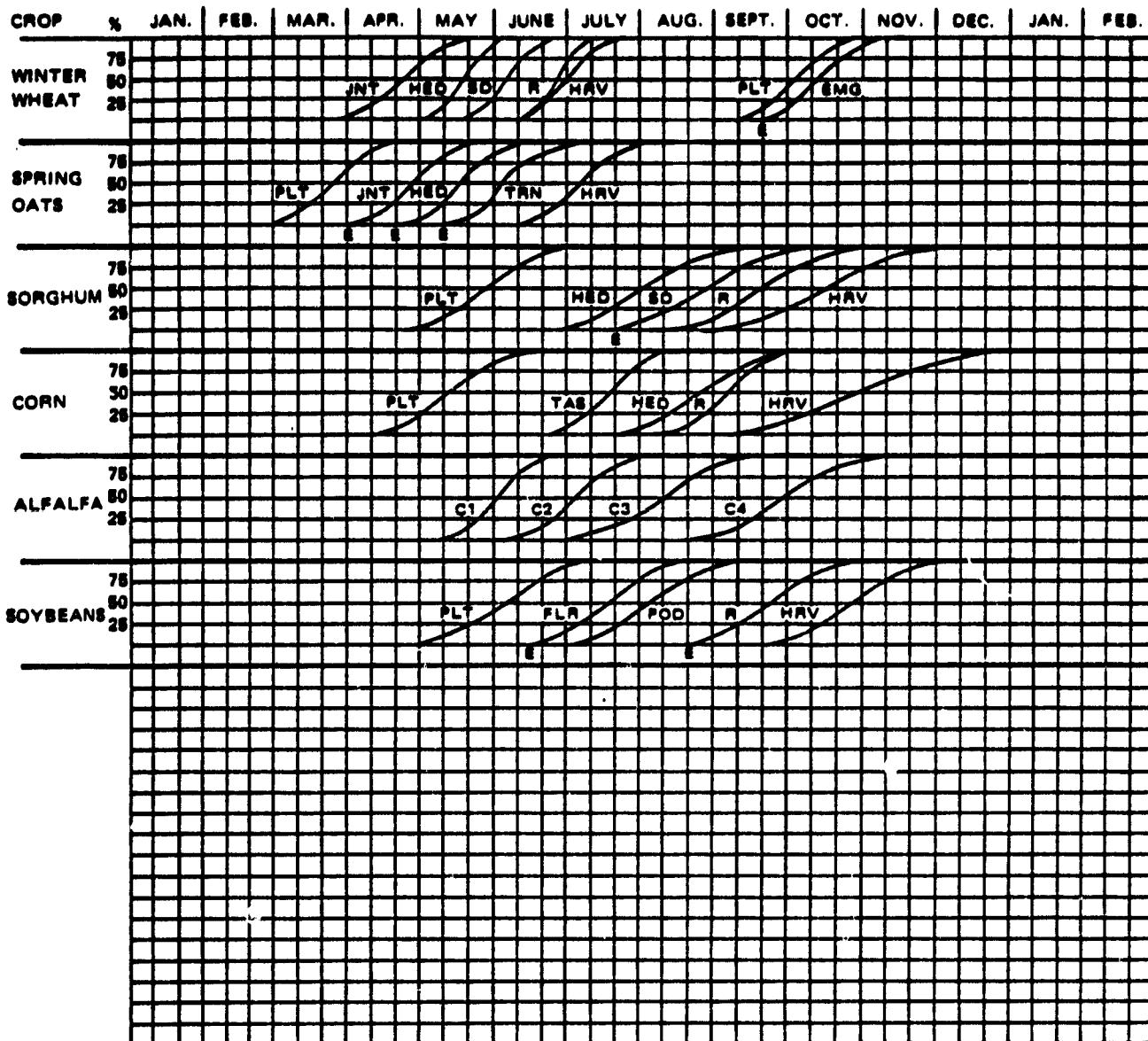


## **LEGEND**

E	Under stage name, indicates rough estimate of date
EMG	Emergence
HED	Heading
HRV	Harvest
JNT	Jointing
PLT	Planting
R	Ripe
SD	Soft dough
TRN	Turning
TAS	Tesseling
C	Cut
FLR	Flowering

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CROP CALENDARS PLOTTED 01/06/78  
PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR  
KANSAS CRD 3 AVERAGE CROP CALENDARS FROM 1963 TO 1973

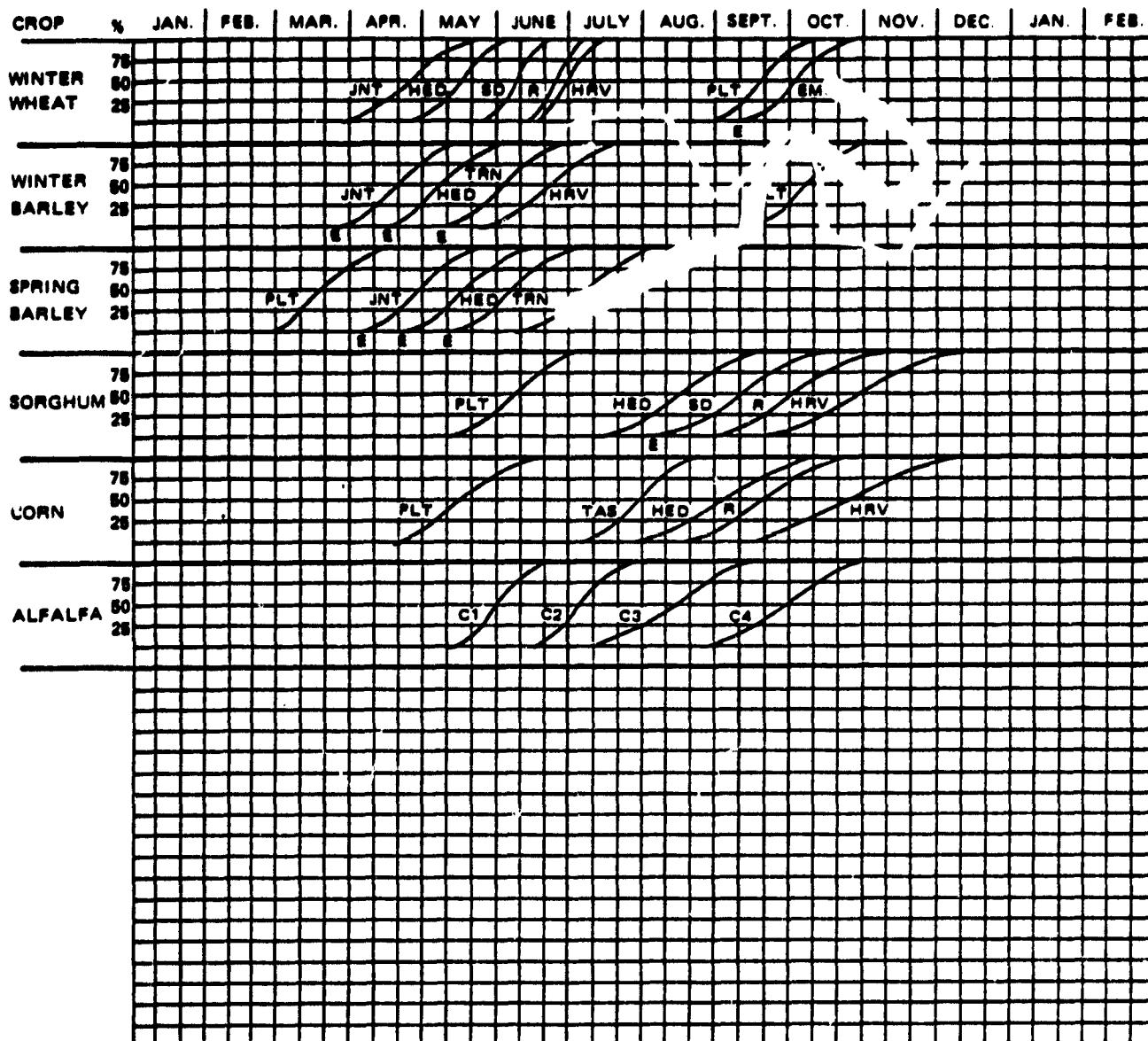


LEGEND

E	Under stage name, indicates rough estimate of date
EMG	Emergence
HED	Heading
HRV	Harvest
JNT	Jointing
PLT	Planting
R	Ripe
SD	Soft dough
TRN	Turning
TAS	Tasseling
C	Cut
FLR	Flowering

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CROP CALENDARS PLOTTED 01/06/76  
PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR  
KANSAS CRO 4 AVERAGE CROP CALENDARS FROM 1963 TO 1973

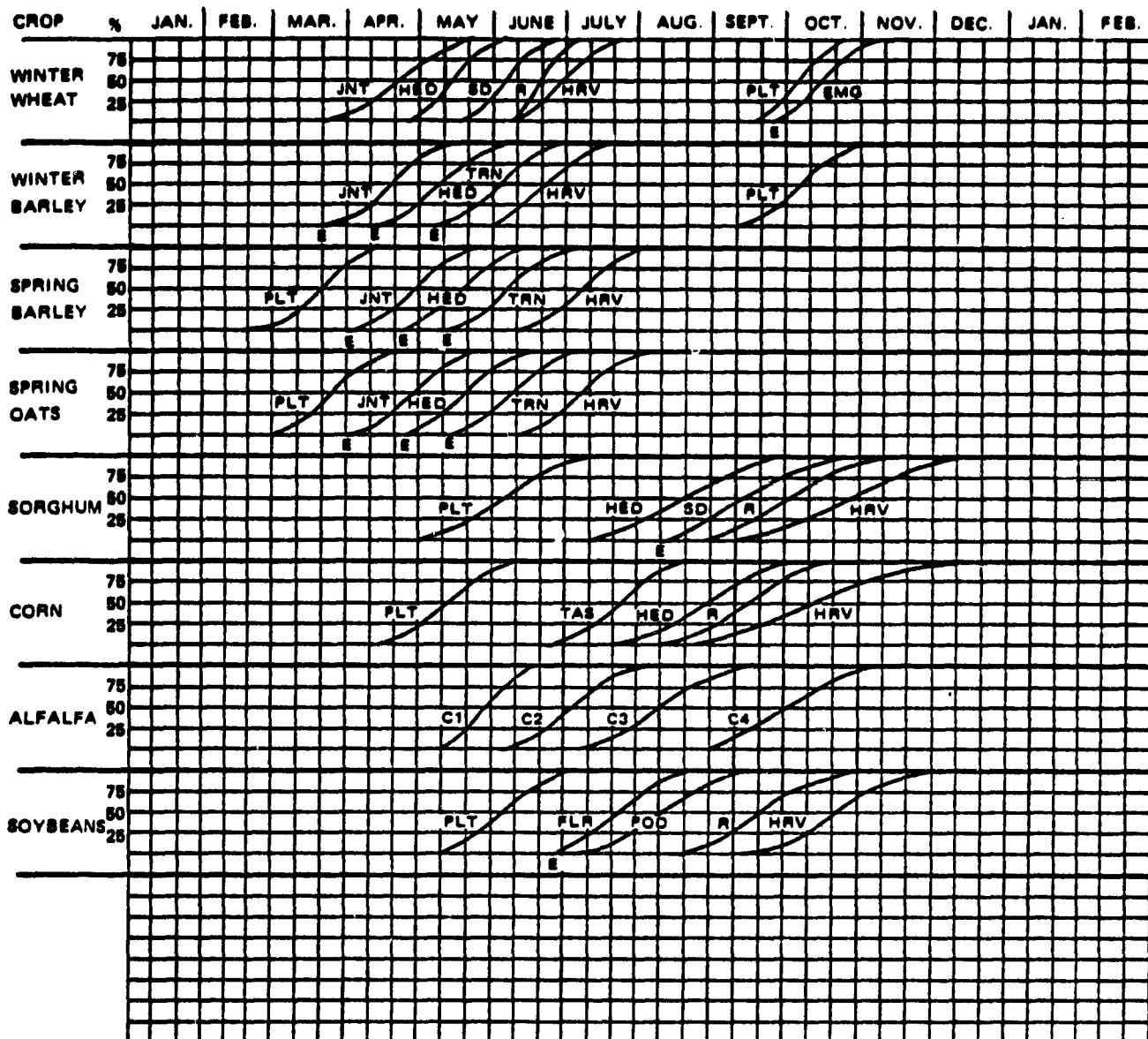


**LEGEND**

E	Under stage name, indicates rough estimate of date
EMG	Emergence
HED	Heading
HRV	Harvest
JNT	Jointing
PLT	Planting
R	Ripe
SD	Soft dough
TRN	Turning
TAS	Tasseling
C	Cut

ORIGINAL PAGE IS  
OF POOR QUALITY

CROP CALENDARS PLOTTED 01/08/78  
PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR  
KANSAS CRD 5 AVERAGE CROP CALENDARS FROM 1963 TO 1973

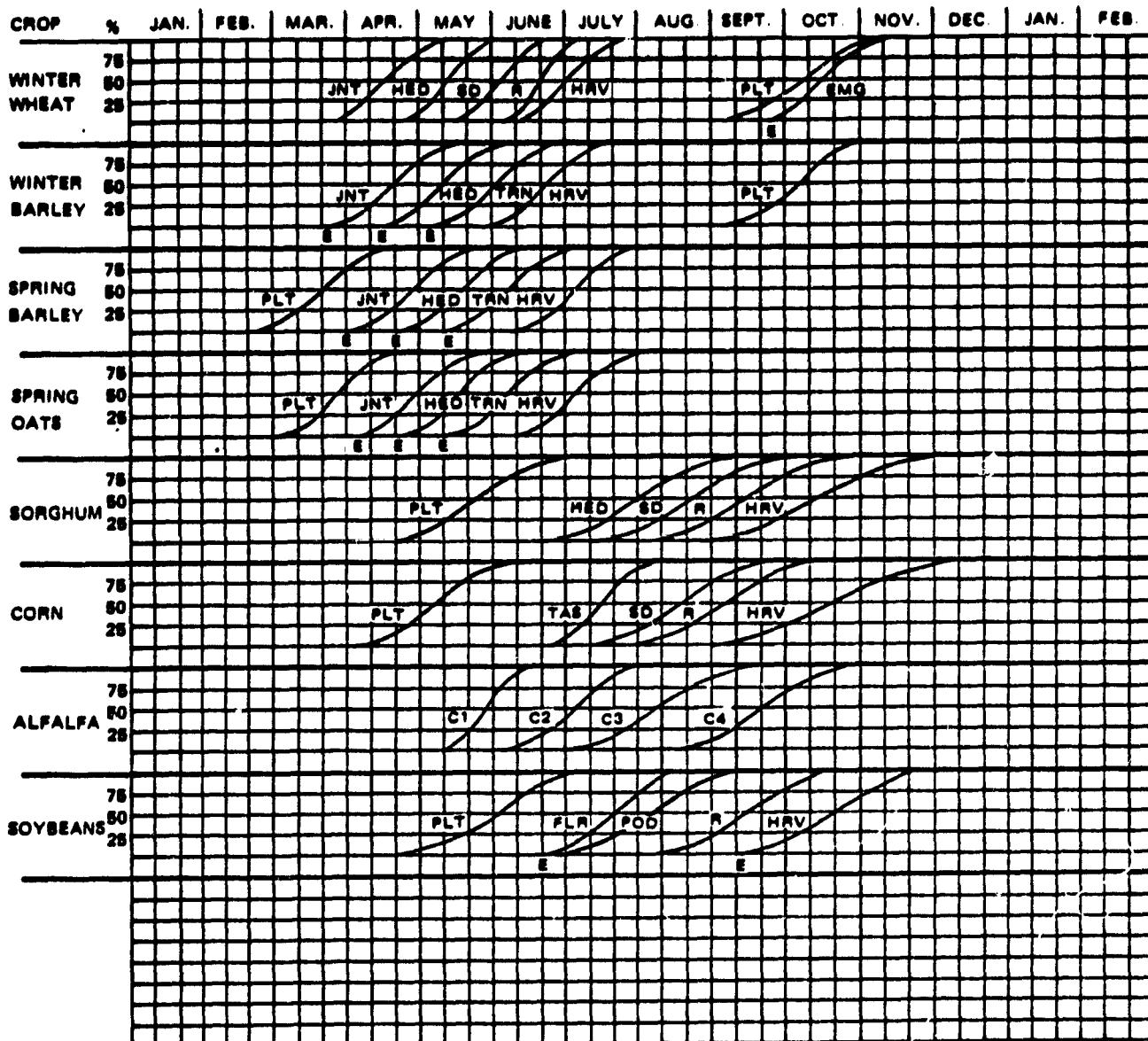


LEGEND

E	Under stage name, indicates rough estimate of date
EMG	Emergence
HED	Heading
HRV	Harvest
JNT	Jointing
PLT	Planting
R	Ripe
SD	Soft dough
TRN	Turning
TAS	Tasseling
C	Cut
FLR	Flowering

ORIGINAL PAGE IS  
OF POOR QUALITY

CROP CALENDARS PLOTTED 01/06/8  
PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR  
KANSAS CRD 6 AVERAGE CROP CALENDARS FROM 1963 TO 1973

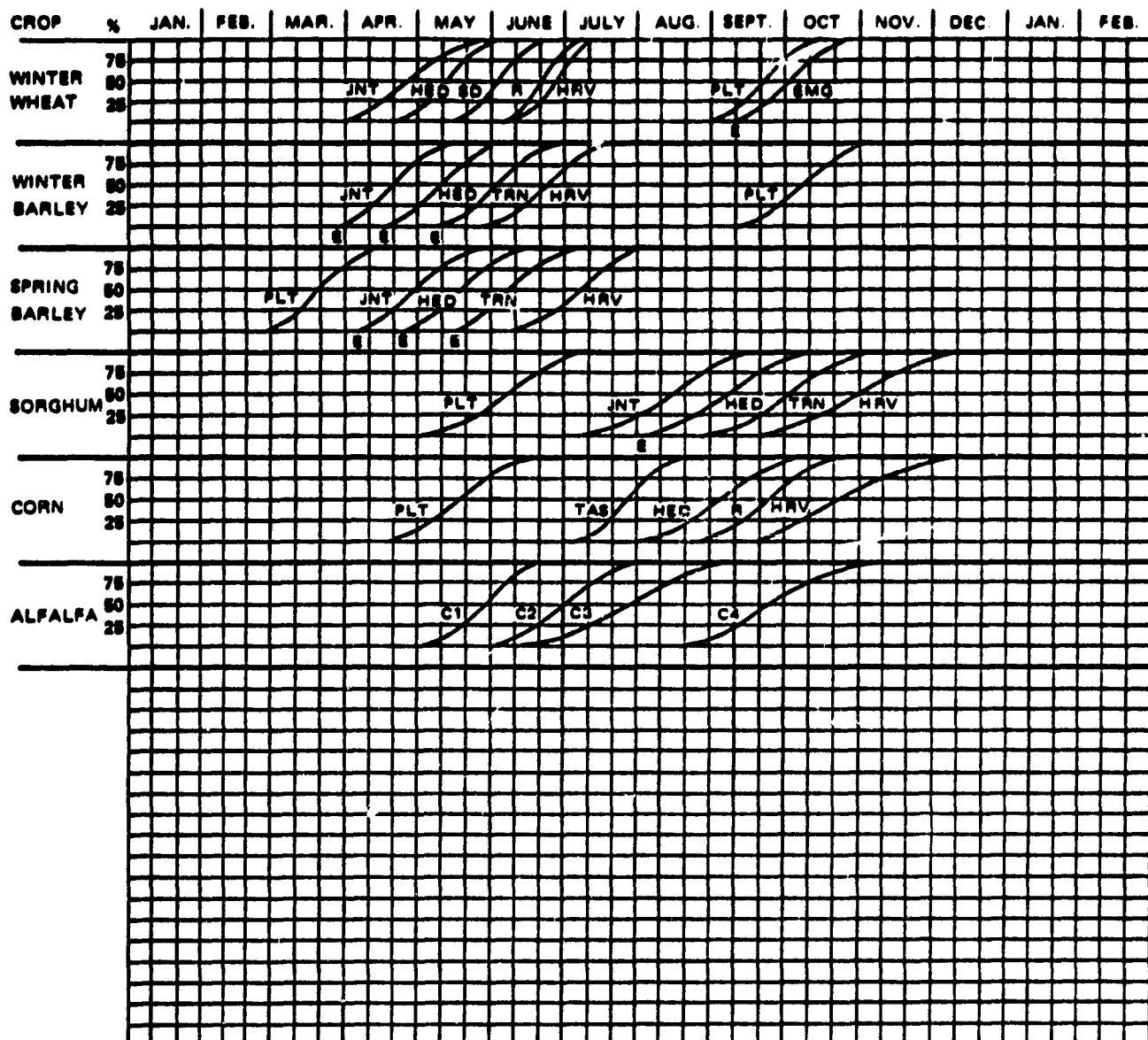


LEGEND

- E Under stage name, indicates rough estimate of date
- EMG Emergence
- HED Heading
- HRV Harvest
- JNT Jointing
- PLT Planting
- R Ripe
- SD Soft dough
- TRN Turning
- FLR Flowering
- C Cut
- TAS Tasseling

**ORIGINAL PAGE IS  
OF POOR QUALITY**

CROP CALENDARS PLOTTED 01/08/76  
 PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR  
 KANSAS CRD 7 AVERAGE CROP CALENDARS FROM 1963 TO 1973

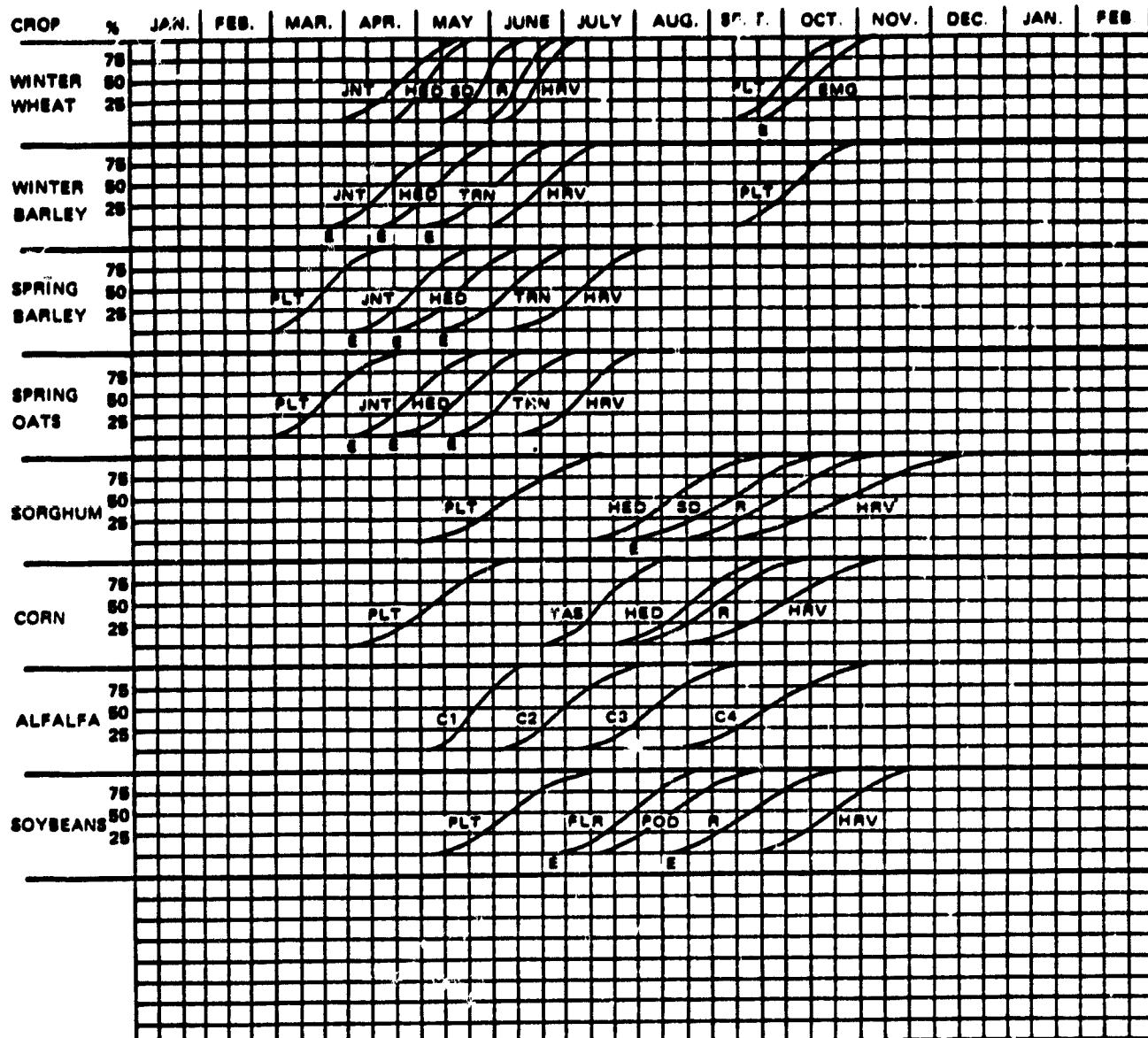


**LEGEND**

E	Under stage name, indicates rough estimate of date
EMG	Emergence
HED	Heading
HRV	Harvest
JNT	Jointing
PLT	Planting
R	Ripe
SD	Soft dough
TRN	Turning
TAS	Tasseling
C	Cut

**ORIGINAL PAGE IS  
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CROP CALENDARS PLOTTED 01/06/76  
PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR  
KANSAS CRO'S AVERAGE CROP CALENDARS FROM 1963 TO 1973

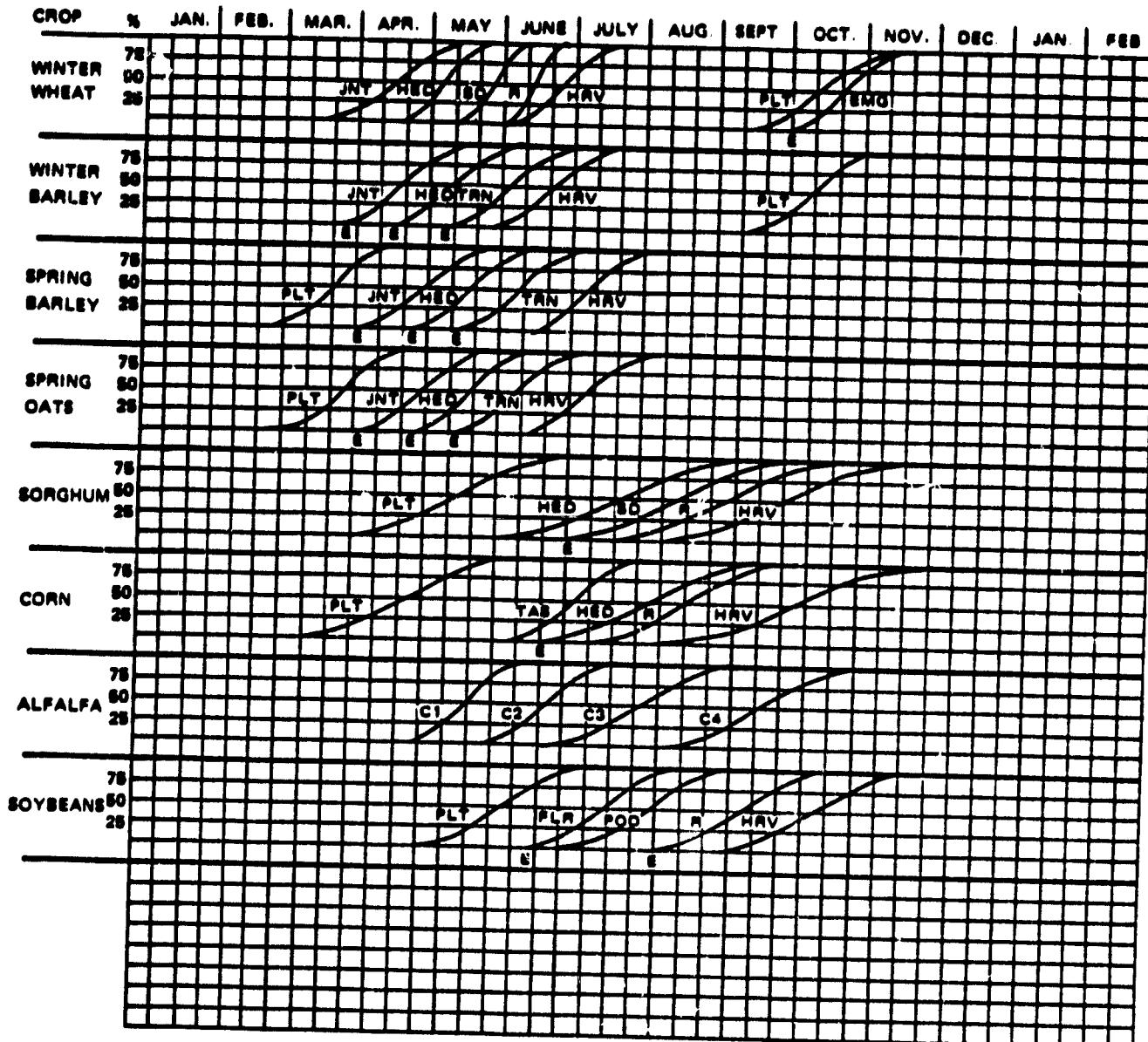


**LEGEND**

E	Under stage name, indicates rough estimate of date
EMG	Emergence
HED	Heading
HRV	Harvest
JNT	Jointing
PLT	Planting
R	Ripe
SD	Soft dough
TRN	Turning
TAS	Tesseling
C	Cut
FLR	Flowering

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CROP CALENDARS PLOTTED 01/06/78  
PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR  
KANSAS CRD 9 AVERAGE CROP CALENDARS FROM 1963 TO 1973

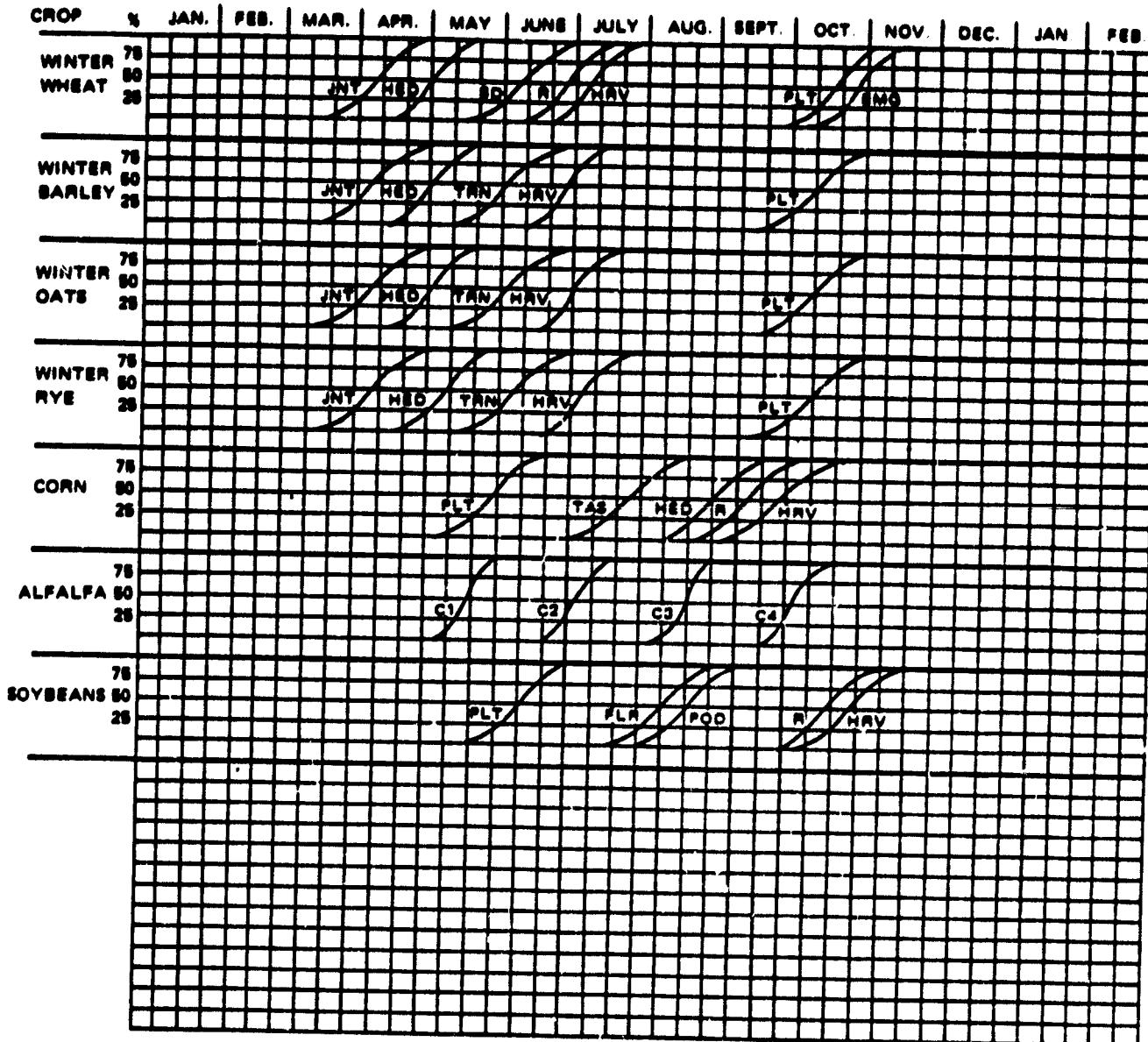


LEGEND

- E Under stage name, indicates rough estimate of date
- EMG Emergence
- HED Heading
- HRV Harvest
- JNT Jointing
- PLT Planting
- R Ripe
- SD Soft dough
- TRN Turning
- TAS Tasseling
- C Cut
- FLR Flower

**ORIGIN OF PLAGUE  
OF POOR QUALITY**

CROP CALENDARS PLOTTED 01/06/78  
 PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR  
 MARYLAND CROPS ESTIMATED AVERAGE CROP CALENDARS FROM USDA BULLETIN 283

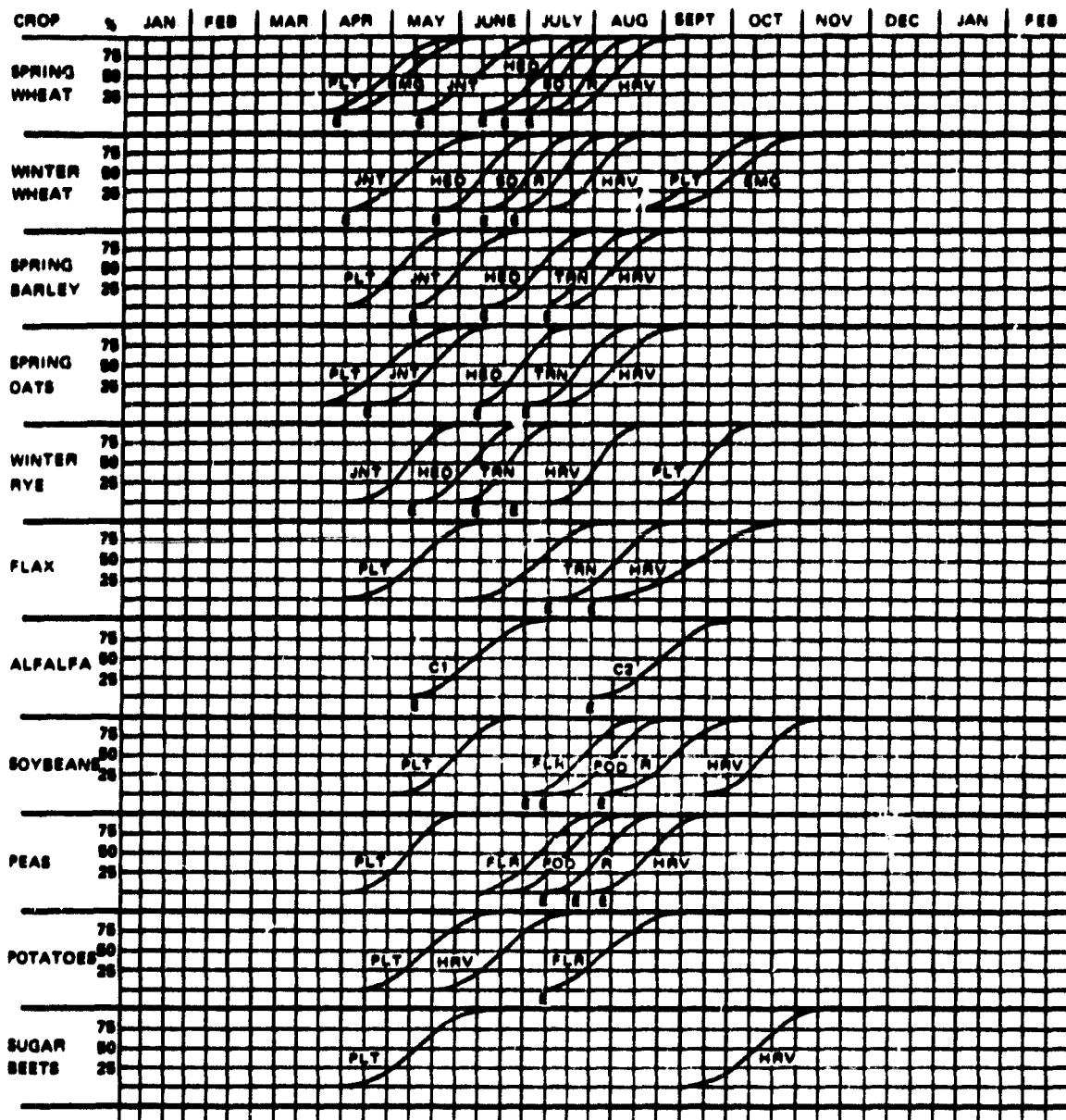


**LEGEND**

E	Under stage name, indicates rough estimate of date
EMG	Emergence
HED	Heading
HRV	Harvest
JNT	Jointing
PLT	Planting
R	Ripe
SD	Soft dough
TRN	Turning
TAS	Tasseling
C	Cut
FLR	Flowering

ORIGINAL PAGE IS  
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CROP CALENDARS PLOTTED 01/06/78  
PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR  
MINNESOTA CRD 10 ESTIMATED AVERAGE CROP CALENDARS FROM BULLETIN 283

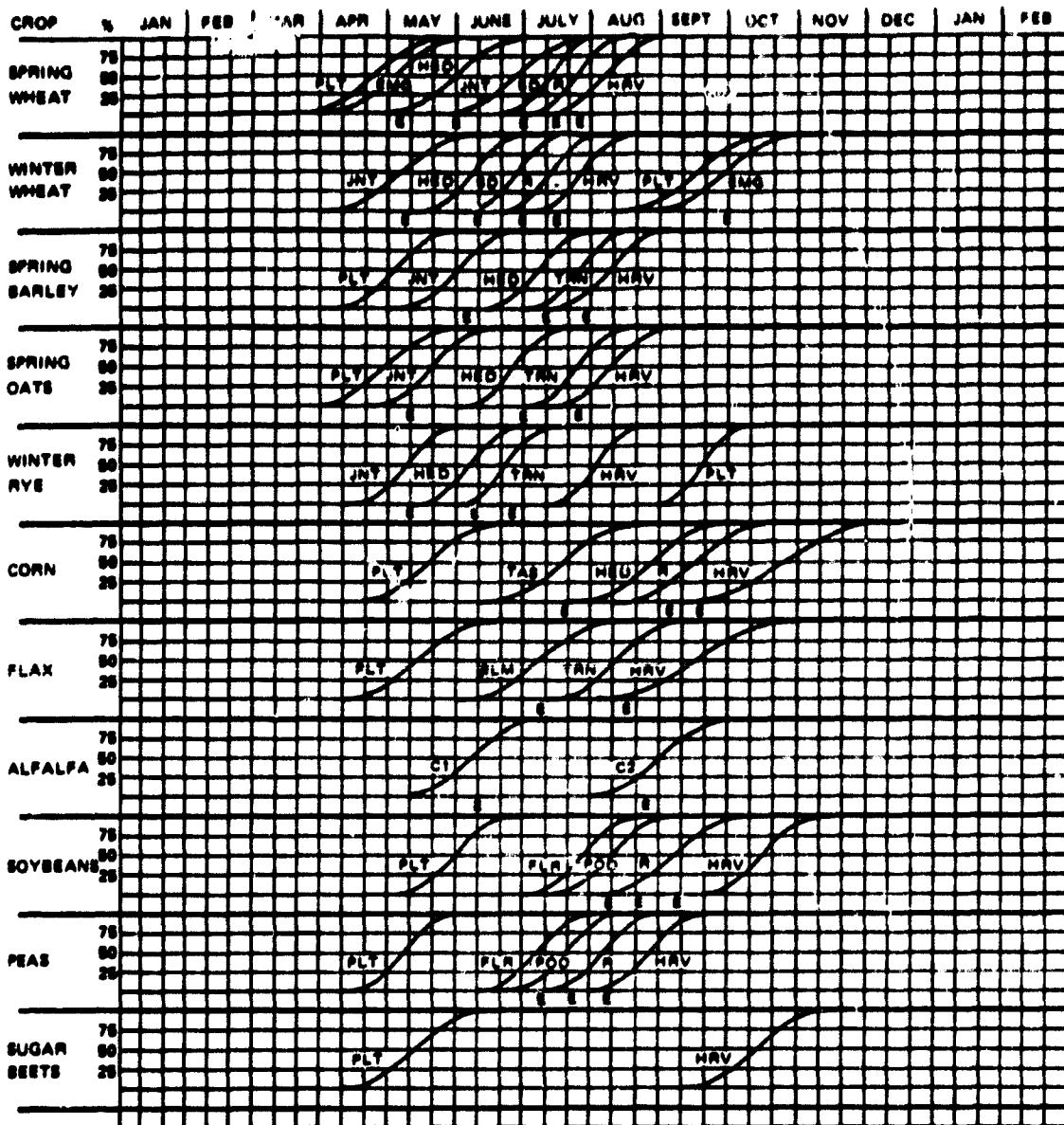


LEGEND

- E Under stage name, indicates rough estimate of date
- EMG Emergence
- HED Heading
- HRV Harvest
- JNT Jointing
- PLT Planting
- R Ripe
- SD Soft dough
- TRN Turning
- C Cut
- FLR Flowering

**ORIGINAL PAGE IS  
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CROP CALENDARS PLOTTED 01/08/76  
PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR  
MINNESOTA CRD 40 ESTIMATED AVERAGE CROP CALENDARS FROM BULLETIN 263

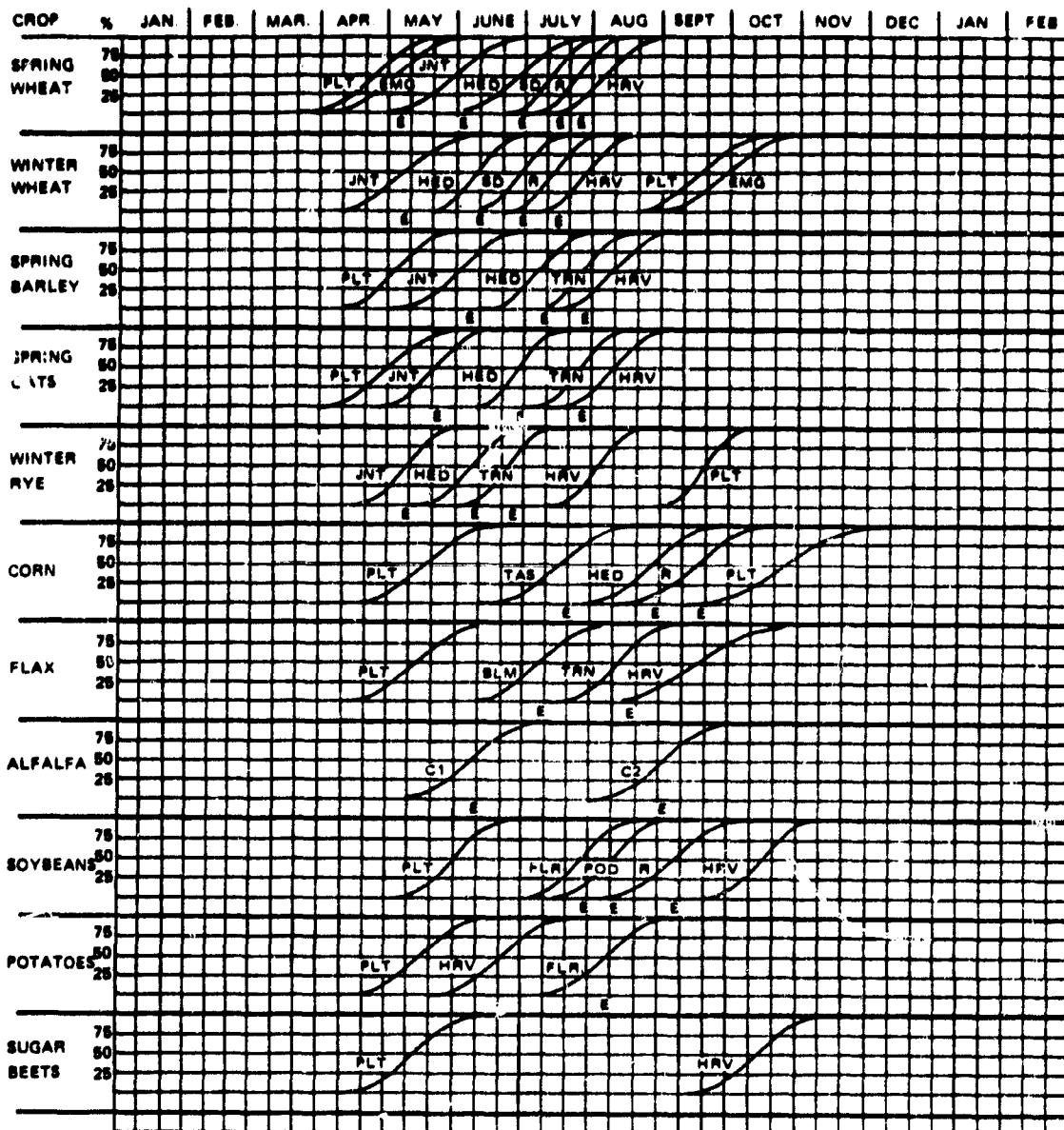


**LEGEND**

E	Under stage name, indicates rough estimate of date
EMG	Emergence
HED	Heading
HRV	Harvest
JNT	Jointing
PLT	Planting
R	Ripe
SD	Soft dough
TRN	Turning
FLR	Flowering
TAS	Tasseling
BLM	Blooming
C	Cut

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CROP CALENDARS PLOTTED 01/06/76  
PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR  
MINNESOTA CRD 50 ESTIMATED AVERAGE CROP CALENDARS FROM BULLETIN 283

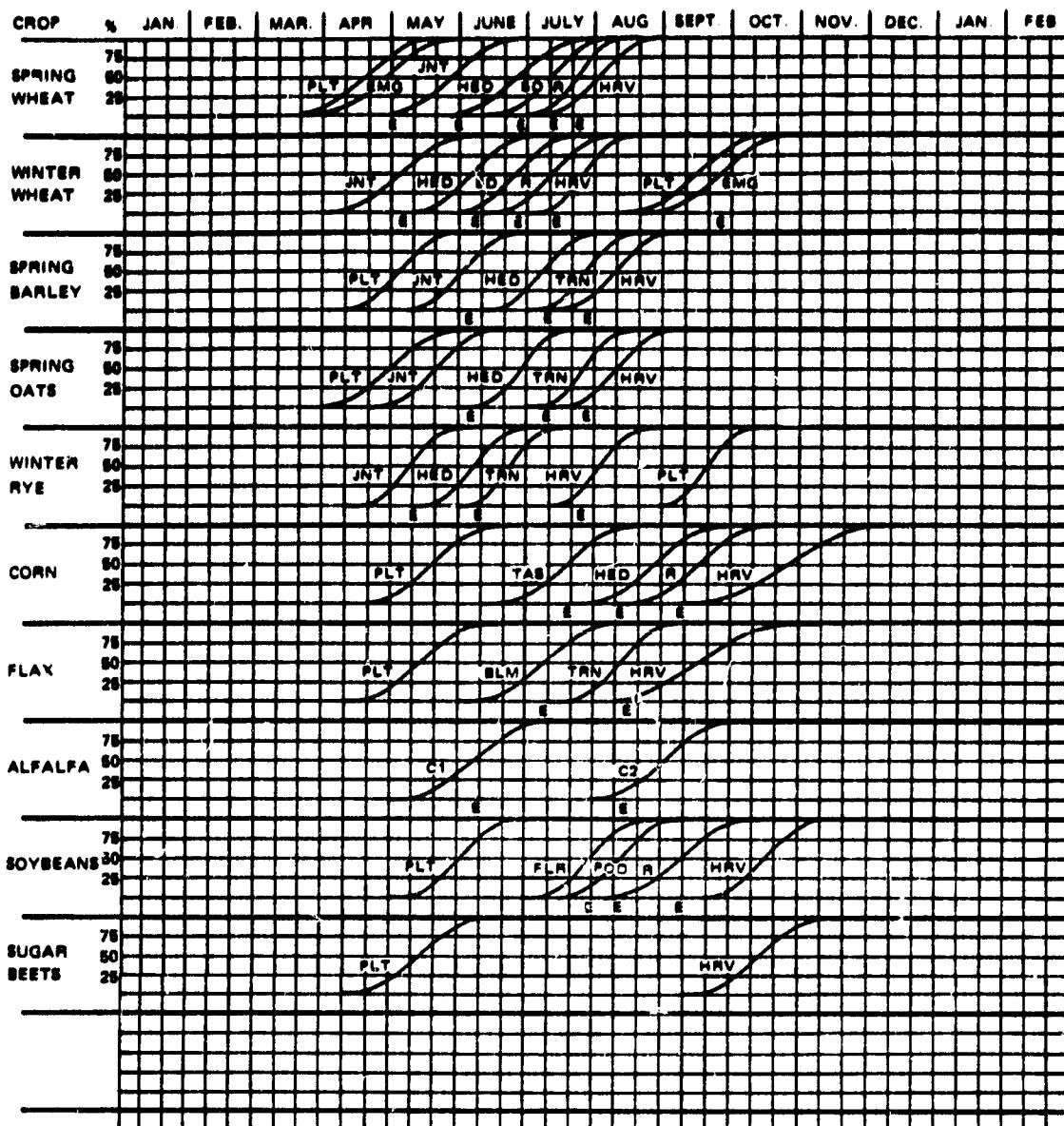


LEGEND

- E Under stage name, indicates rough estimate of date
- EMG Emergence
- HED Heading
- HRV Harvest
- JNT Jointing
- PLT Planting
- R Ripe
- SD Soft dough
- TRN Turning
- TAB Tasseling
- BLM Blooming
- C Cut
- FLR Flowering

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CROP CALENDARS PLOTTED 01/06/76  
PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR  
MINNESOTA CRD 70 ESTIMATED AVERAGE CROP CALENDARS FROM BULLETIN 283

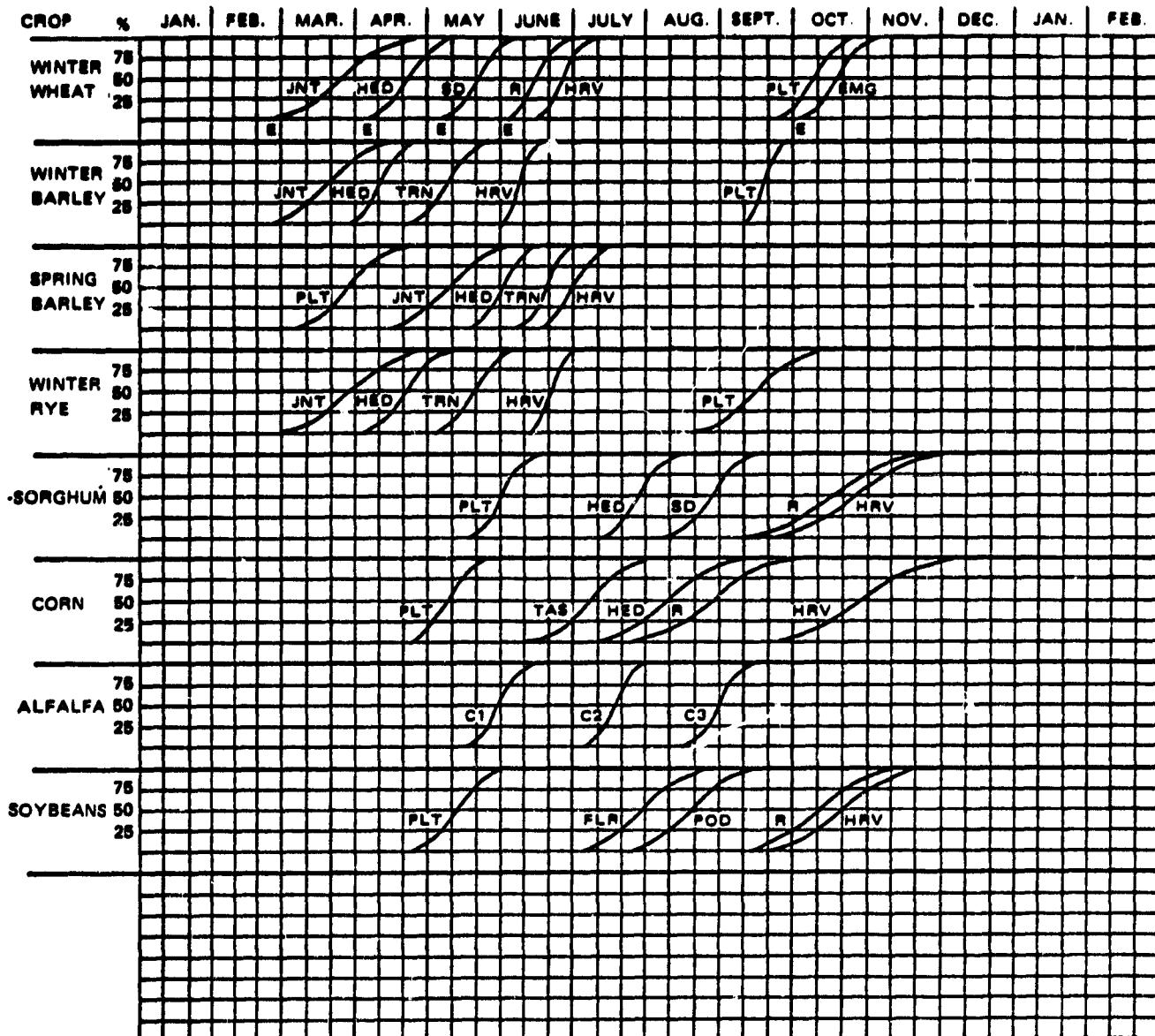


**LEGEND**

E	Under stage name, indicates rough estimate of date
EMG	Emergence
HED	Heading
HRV	Harvest
JNT	Jointing
PLT	Planting
R	Ripe
SD	Soft dough
TRN	Turning
TAS	Tasseling
BLM	Blooming
C	Cut
FLR	Flowering

ORIGINAL PAGE IS  
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CROP CALENDARS PLOTTED 01/06/78  
PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR  
MISSOURI CRD & ESTIMATED AVERAGE CROP CALENDARS FROM USDA BULLETIN 283

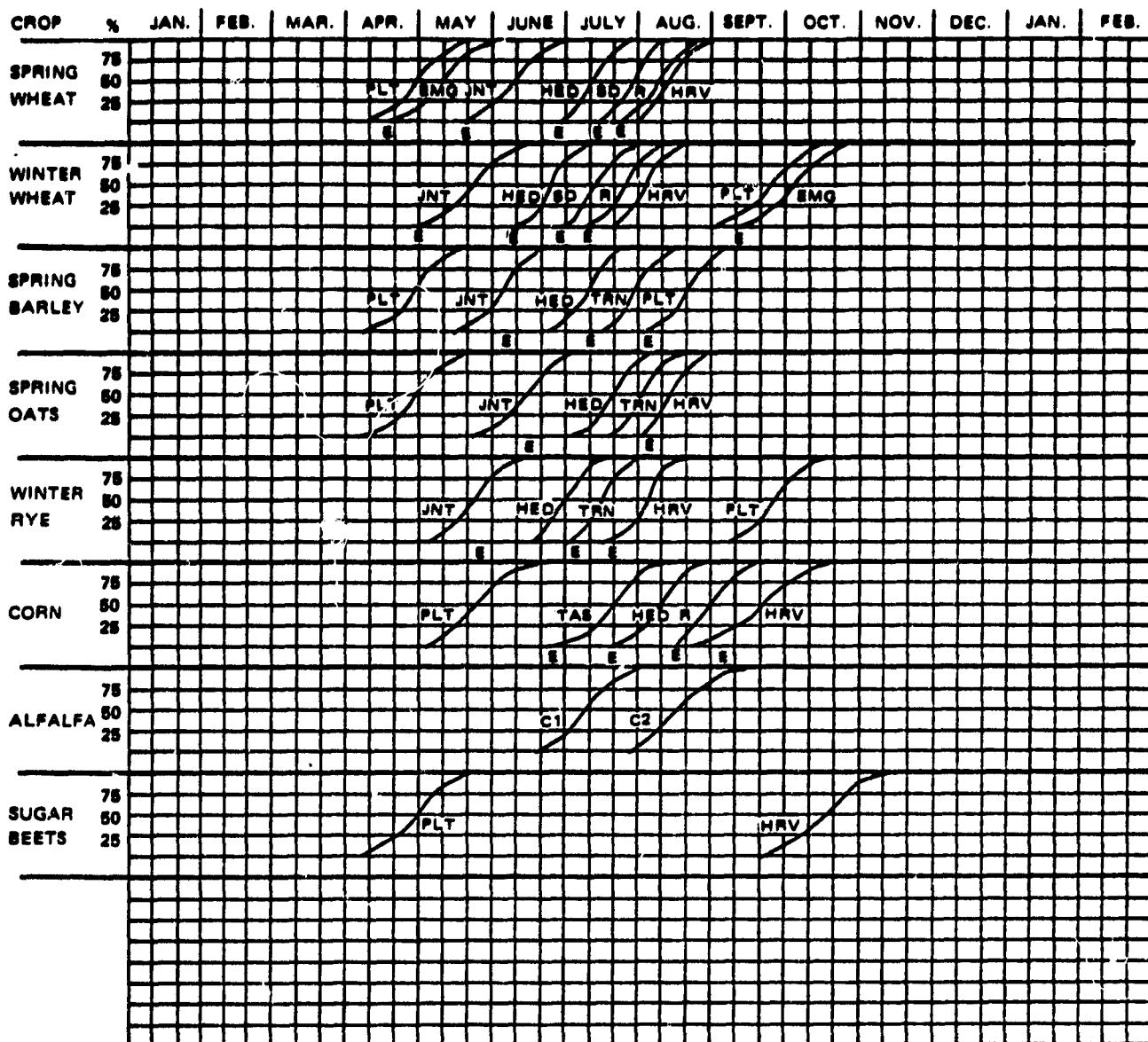


LEGEND

E	Under stage name, indicates rough estimate of date
EMG	Emergence
HED	Heading
HRV	Harvest
JNT	Jointing
PLT	Planting
R	Ripe
SD	Soft dough
TRN	Turning
TAS	Tasseling
C	Cut
FLR	Flowering

ORIGINAL PAGE IS  
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CROP CALENDARS PLOTTED 01/06/76  
PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR  
MONTANA CRD 10 RECENT AVERAGE CROP CALENDARS

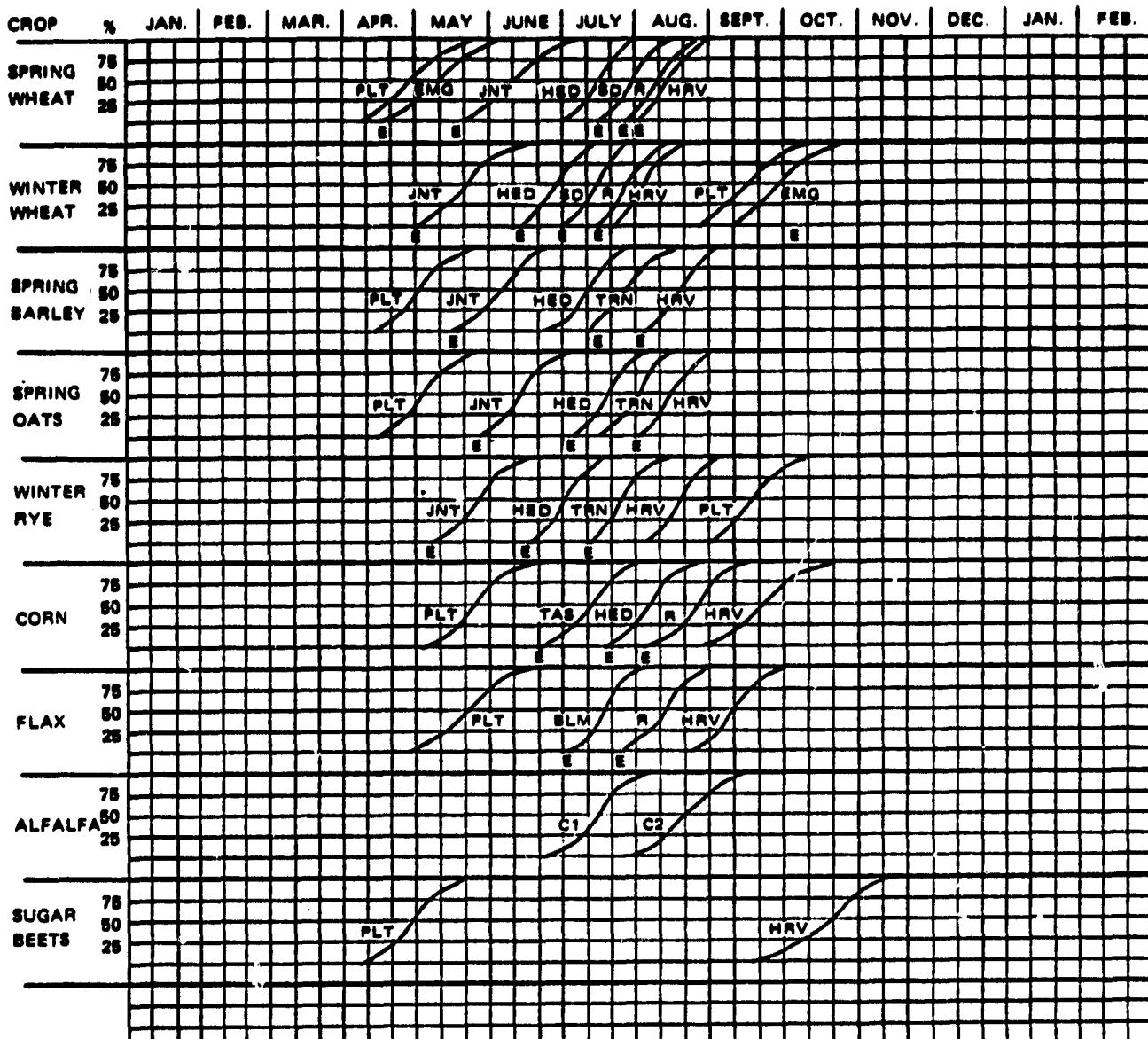


LEGEND

E	Under stage name, indicates rough estimate of date
EMG	Emergence
HED	Heading
HRV	Harvest
JNT	Jointing
PLT	Planting
R	Ripe
SD	Soft dough
TRN	Turning
TAS	Tasseling
C	Cut

**ORIGINAL PAGE IS  
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CROP CALENDARS PLOTTED 01/06/78  
PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR  
MONTANA CRD 20 RECENT AVERAGE CROP CALENDARS

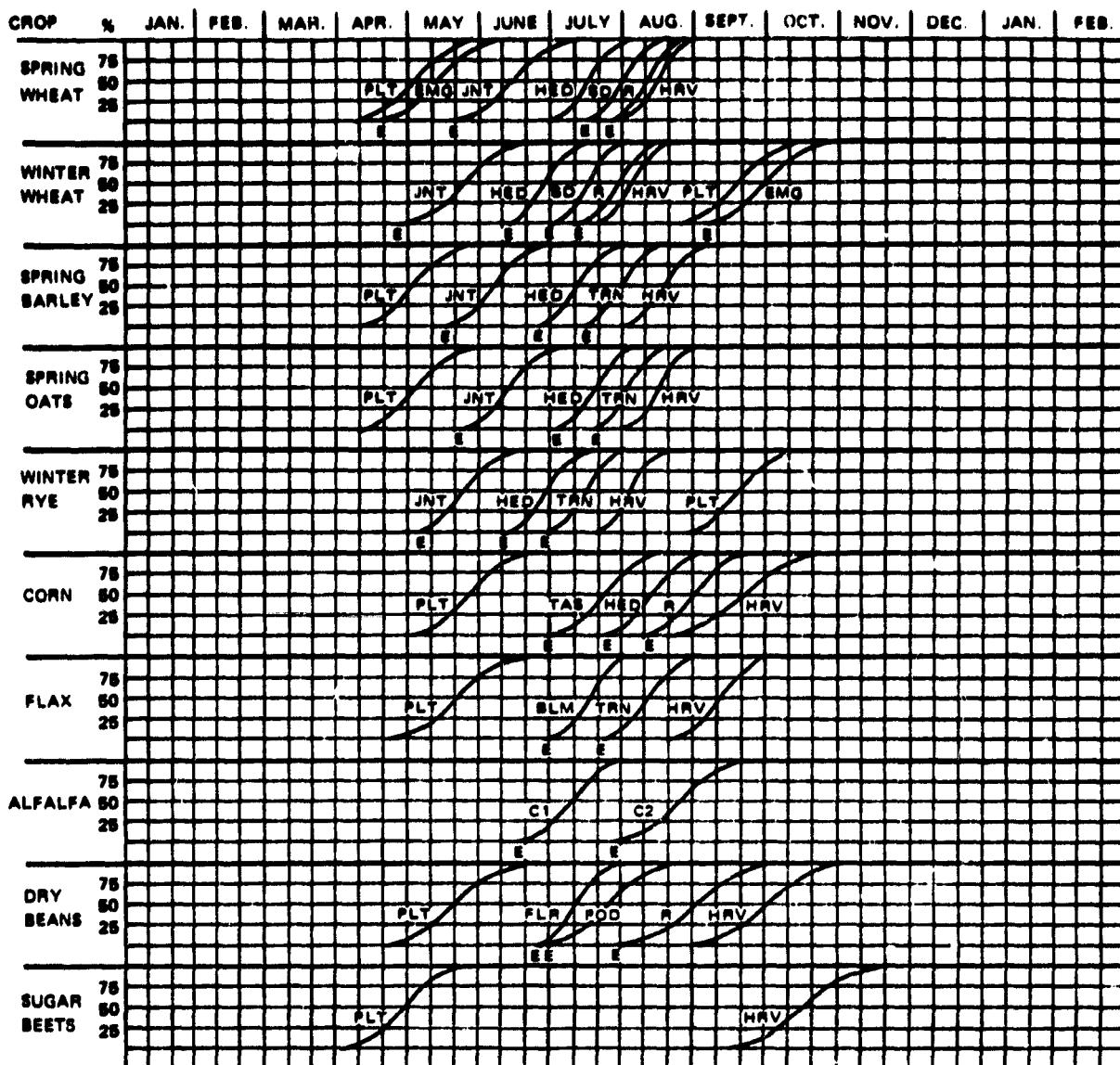


**LEGEND**

E	Under stage name, indicates rough estimate of date
EMG	Emergence
HED	Heading
HRV	Harvest
JNT	Jointing
PLT	Planting
R	Ripe
SD	Soft dough
TRN	Turning
TAS	Tasseling
BLM	Blooming
C	Cut

**ORIGINAL PAGE IS  
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CROP CALENDARS PLOTTED 01/06/76  
PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR  
MONTANA CRD 30 RECENT AVERAGE CROP CALENDARS

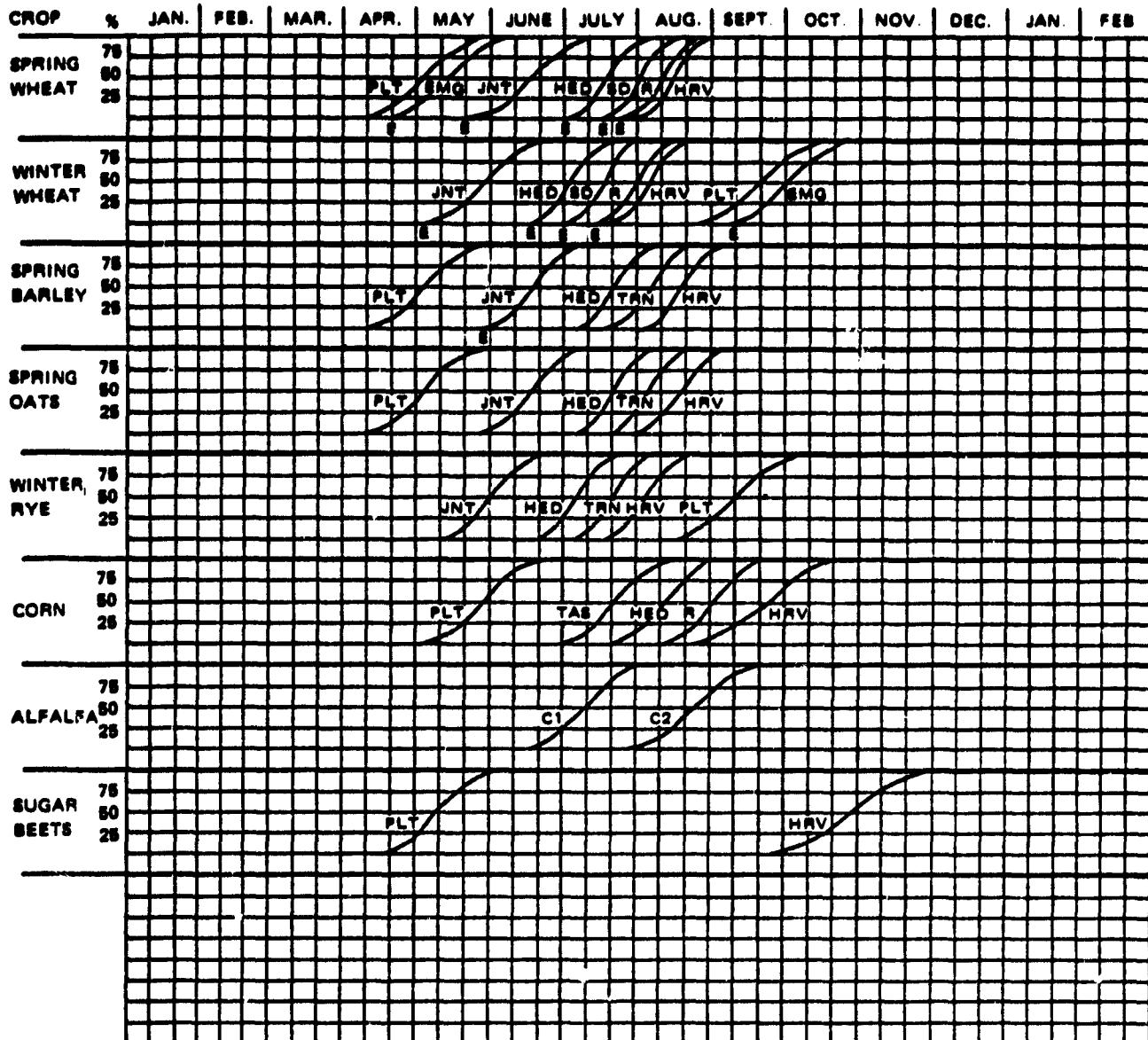


**LEGEND**

- E Under stage name, indicates rough estimate of date
- EMG Emergence
- HED Heading
- HRV Harvest
- JNT Jointing
- PLT Planting
- R Ripe
- SD Soft dough
- TRN Turning
- TAS Tasseling
- BLM Blooming
- C Cut
- FLR Flowering

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**CROP CALENDARS PLOTTED 01/06/76**  
**PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR**  
**MONTANA CRD 50 RECENT AVERAGE CROP CALENDARS**

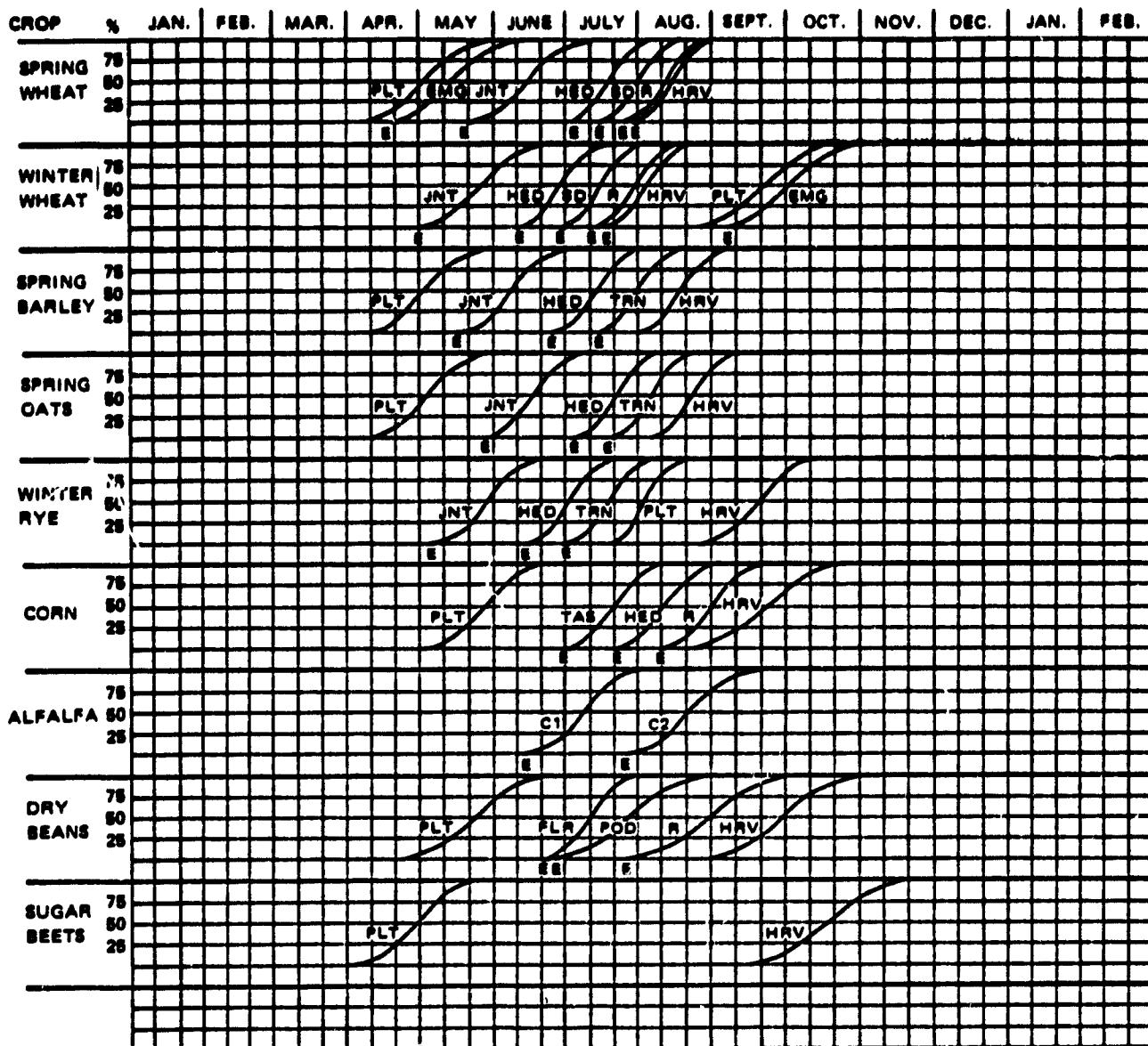


## **LEGEND**

	LEGEND
E	Under stage name, indicates rough estimate of date
EMG	Emergence
HED	Heading
HRV	Harvest
JNT	Jointing
PLT	Planting
R	Ripe
SD	Soft dough
TRN	Turning
C	Cut
TAS	Tasseling

ORIGINAL PAGE IS  
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CROP CALENDARS PLOTTED 01/06/76  
PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR  
MONTANA CRD 70 RECENT AVERAGE CROP CALENDARS

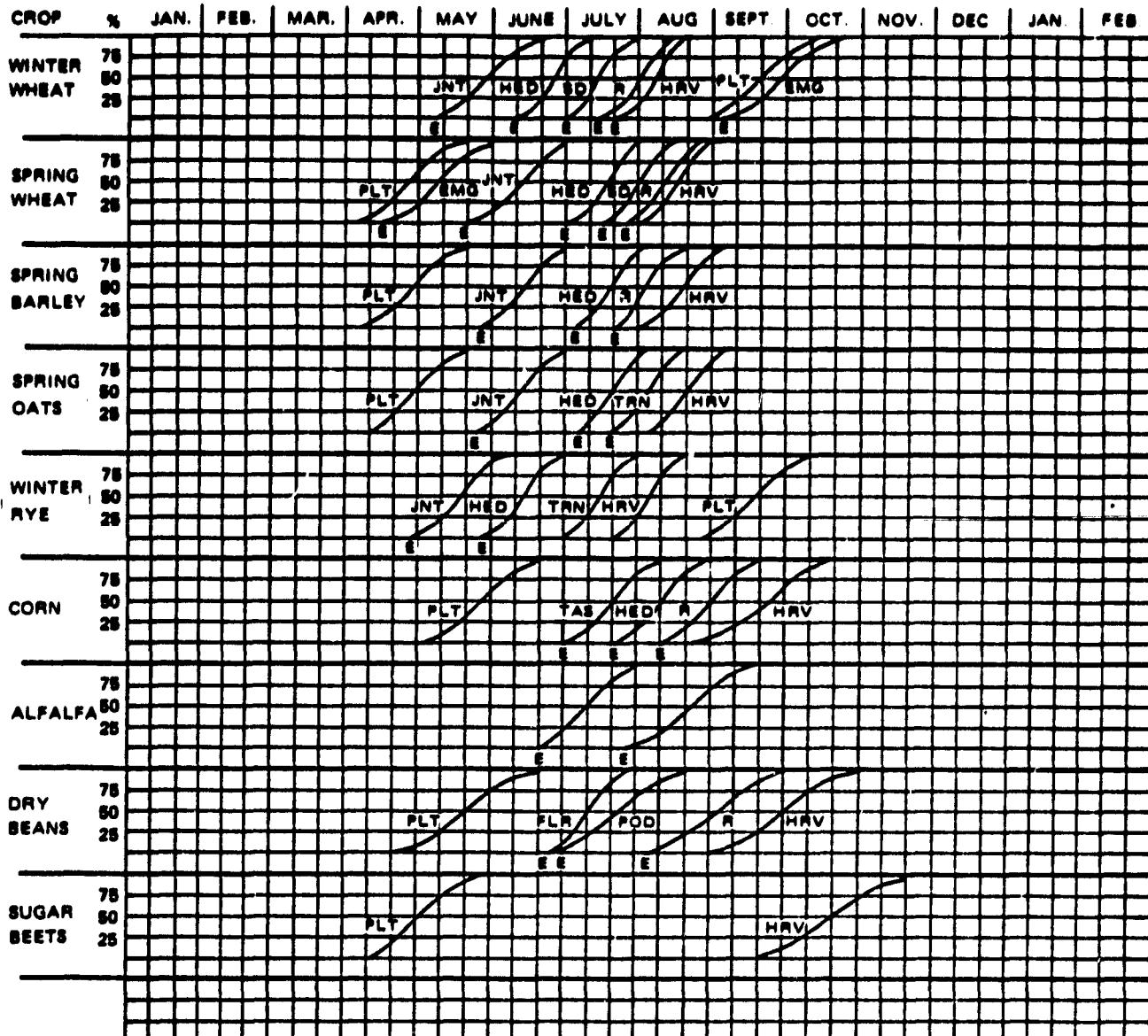


LEGEND

E	Under stage name, indicates rough estimate of date
EMG	Emergence
HED	Heading
HRV	Harvest
JNT	Jointing
PLT	Planting
R	Ripe
SD	Soft dough
TRN	Turning
TAS	Tasseling
C	Cut
FLR	Flowering

**ORIGINAL PAGE IS  
OF POOR QUALITY**

CROP CALENDARS PLOTTED 01/06/78  
PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR  
MONTANA CRD 80 RECENT AVERAGE CROP CALENDARS

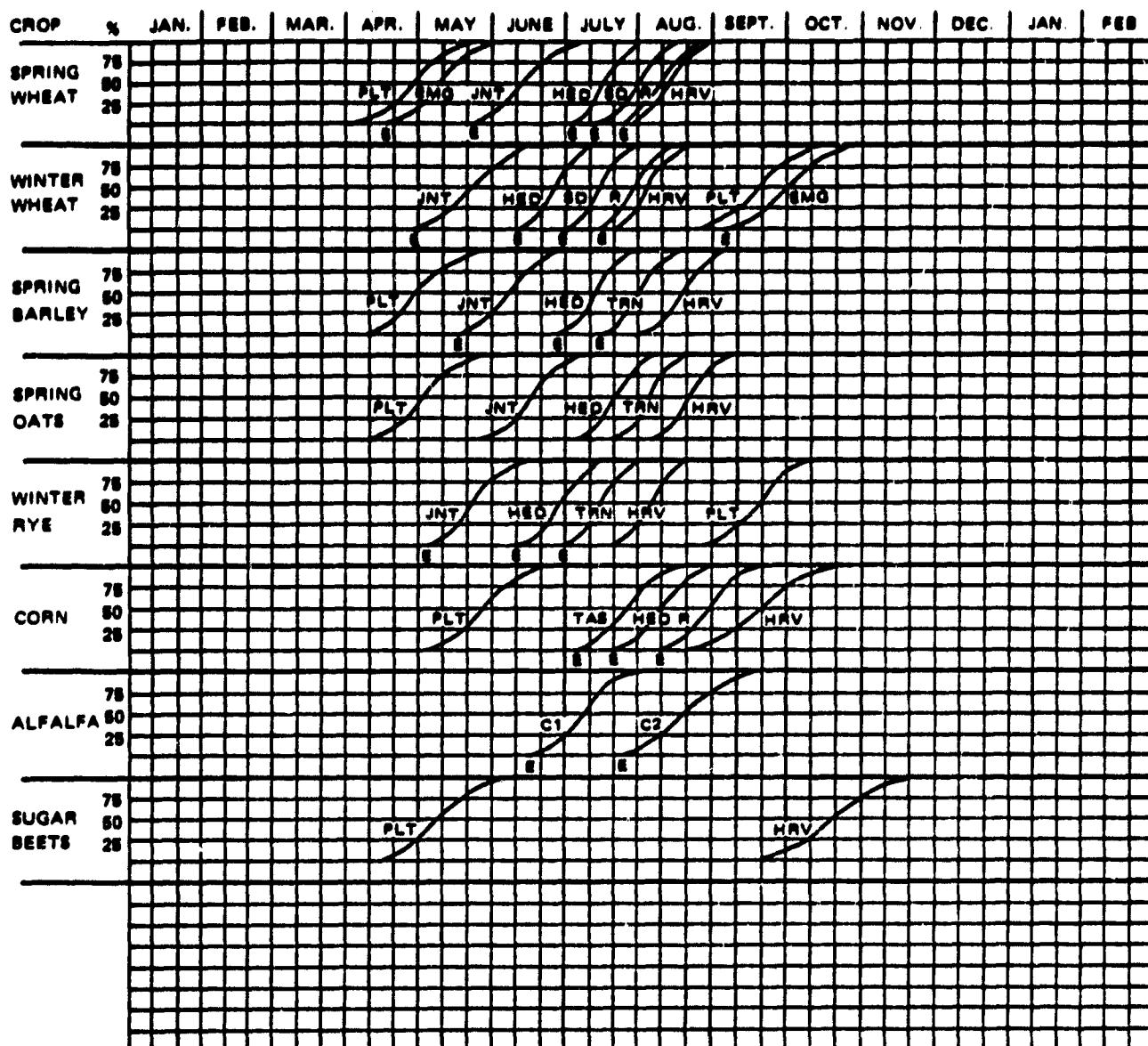


**LEGEND**

E	Under stage name, indicates rough estimate of date
EMG	Emergence
HED	Heading
HRV	Harvest
JNT	Jointing
PLT	Planting
R	Ripe
SD	Soft dough
TRN	Turning
C	Cut
TAS	Tasseling

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CROP CALENDARS PLOTTED 01/06/76  
PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR  
MONTANA CRD 90 RECENT AVERAGE CROP CALENDARS

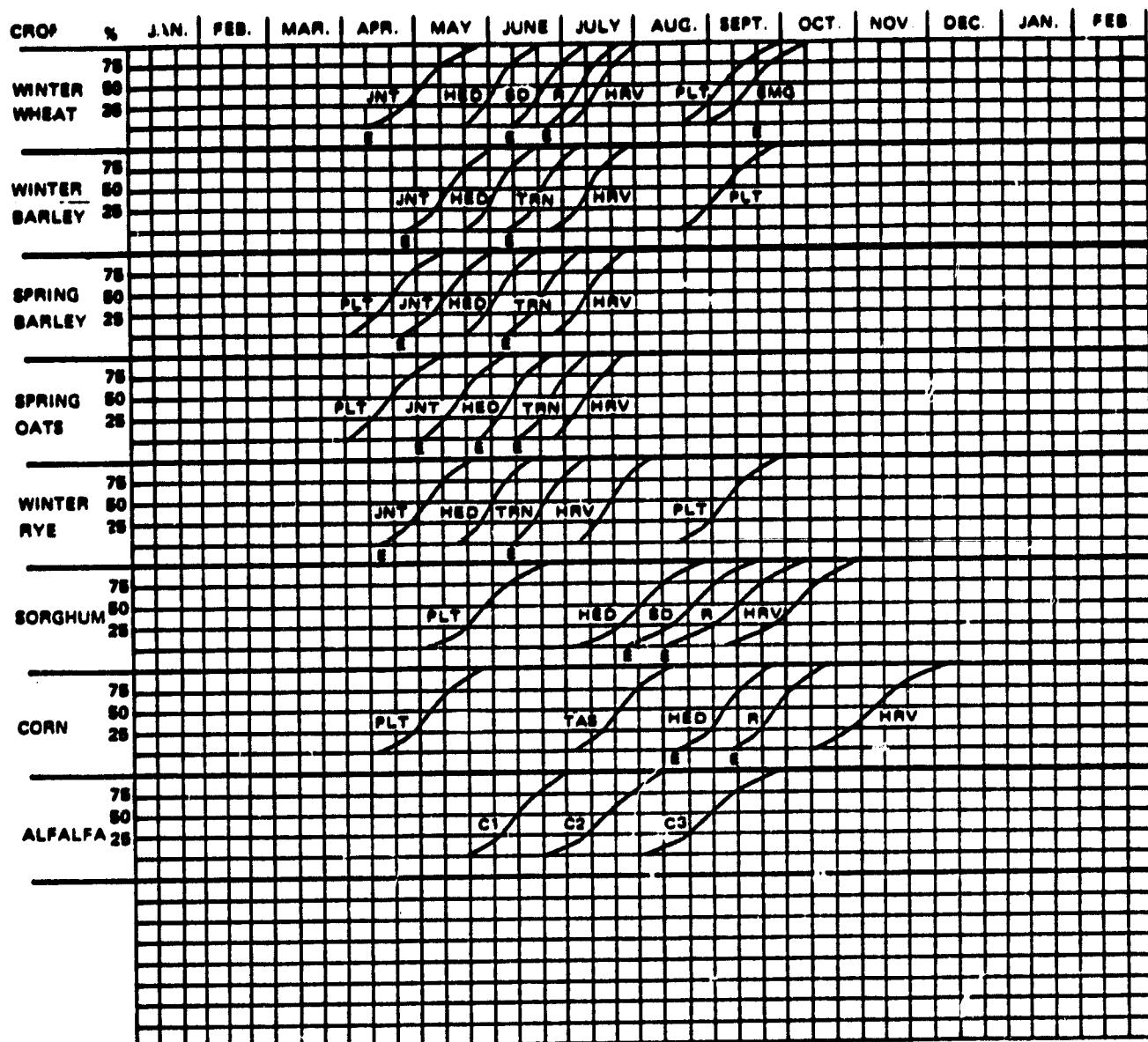


LEGEND

E	Under stage name, indicates rough estimate of date
EMG	Emergence
HED	Heading
HRV	Harvest
JNT	Jointing
PLT	Planting
R	Ripe
SD	Soft dough
TRN	Turning
TAS	Tasseling
C	Cut

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CROP CALENDARS PLOTTED 01/06/76  
PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR  
NEBRASKA CRD 10 AVERAGE CROP CALENDARS ENDING IN 1967

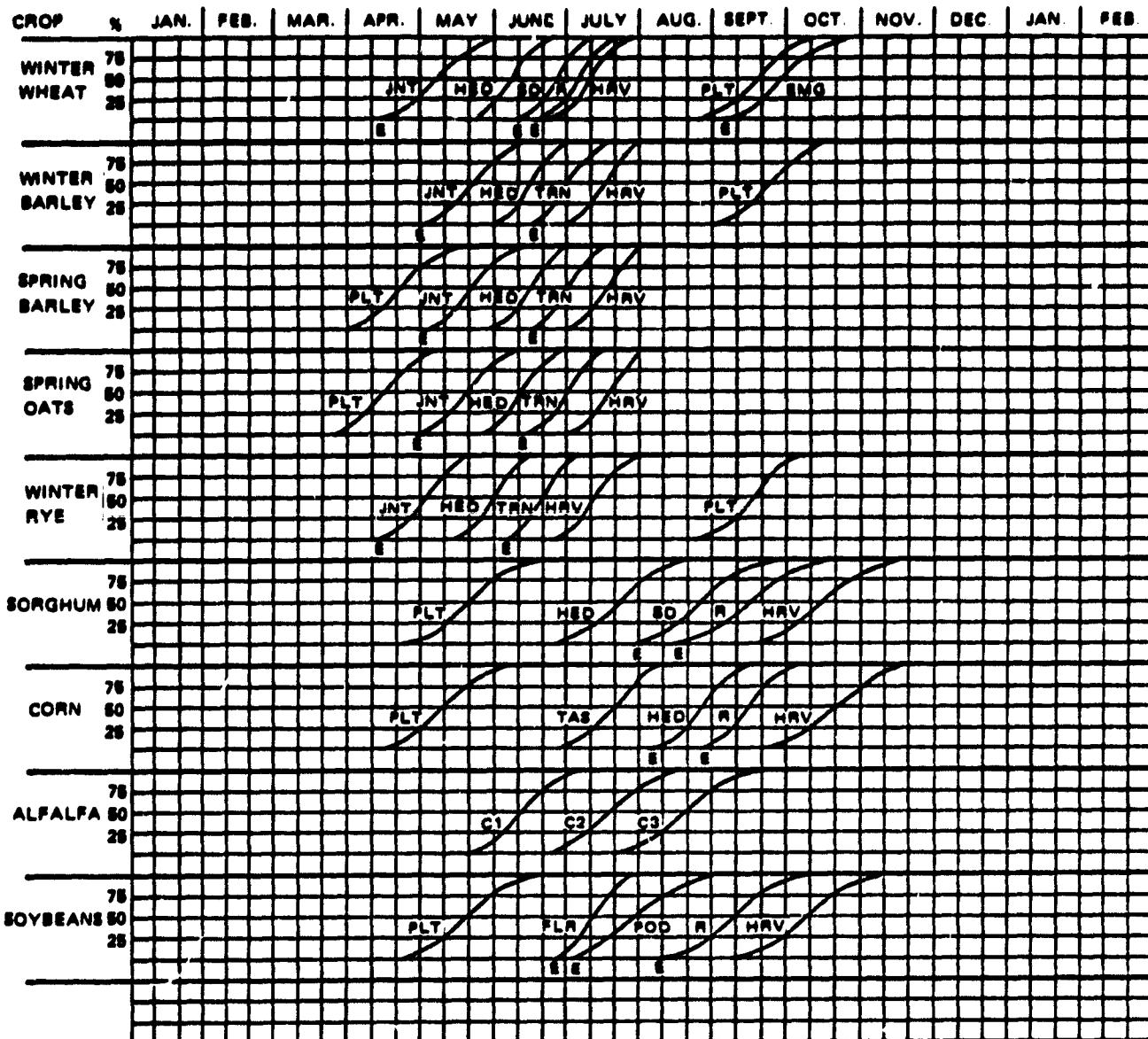


LEGEND

E	Under stage name, indicates rough estimate of date
EMG	Emergence
HED	Heading
HRV	Harvest
JNT	Jointing
PLT	Planting
R	Ripe
SD	Soft dough
TRN	Turning
TAS	Tasseling
C	Cut

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CROP CALENDARS PLOTTED 01/06/76  
PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR  
NEBRASKA CRD 50 AVERAGE CROP CALENDARS ENDING IN 1967

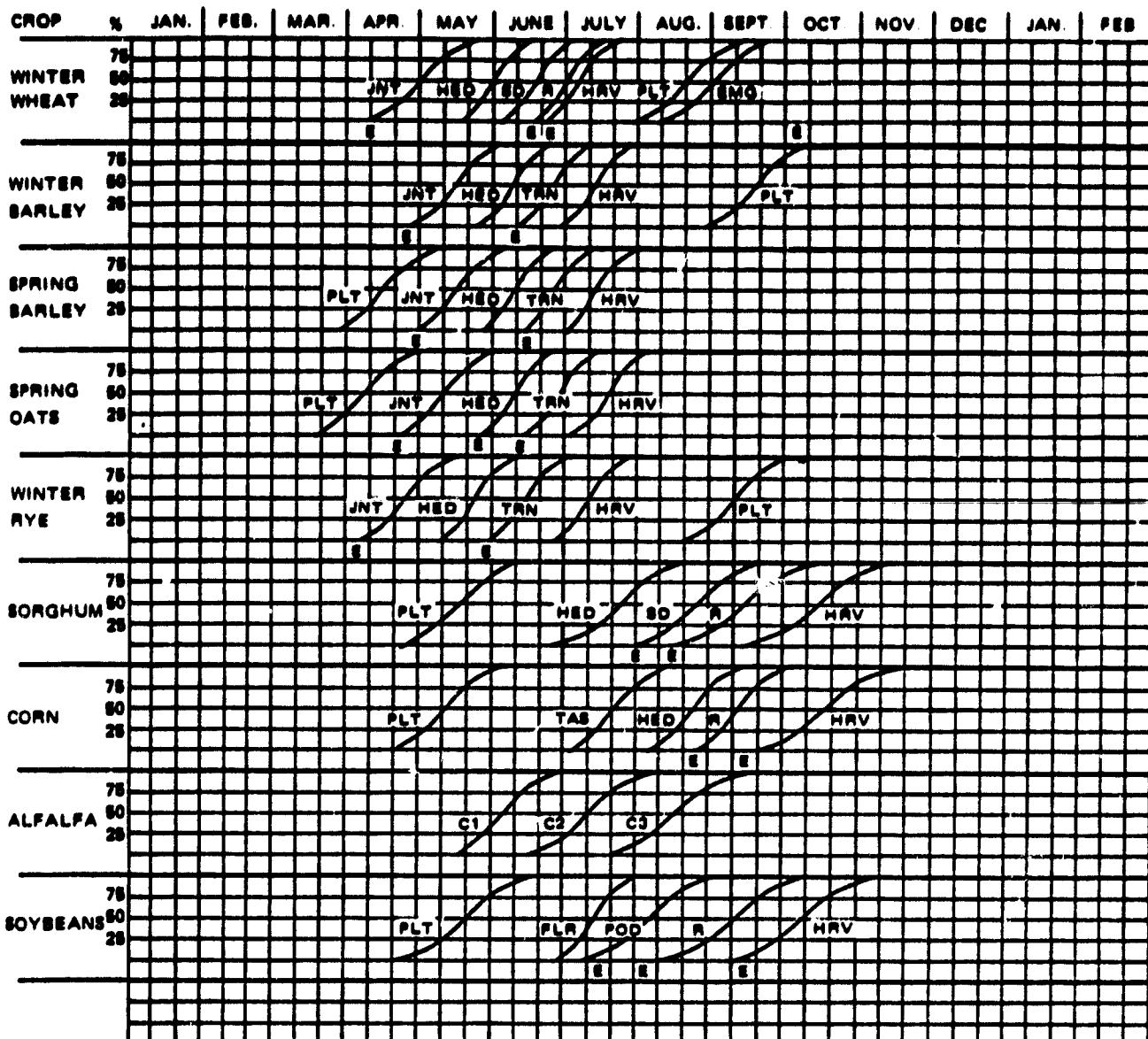


LEGEND

E	Under stage name, indicates rough estimate of date
EMG	Emergence
HED	Heading
HRV	Harvest
JNT	Jointing
PLT	Planting
R	Ripe
SD	Soft dough
TRN	Turning
TAS	Tasseling
C	Cut
FLR	Flowering

ORIGINAL. FILED TO  
OF POOR QUALITY

CROP CALENDARS PLOTTED 01/06/78  
PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR  
NEBRASKA CRD 60 AVERAGE CROP CALENDARS ENDING IN 1967

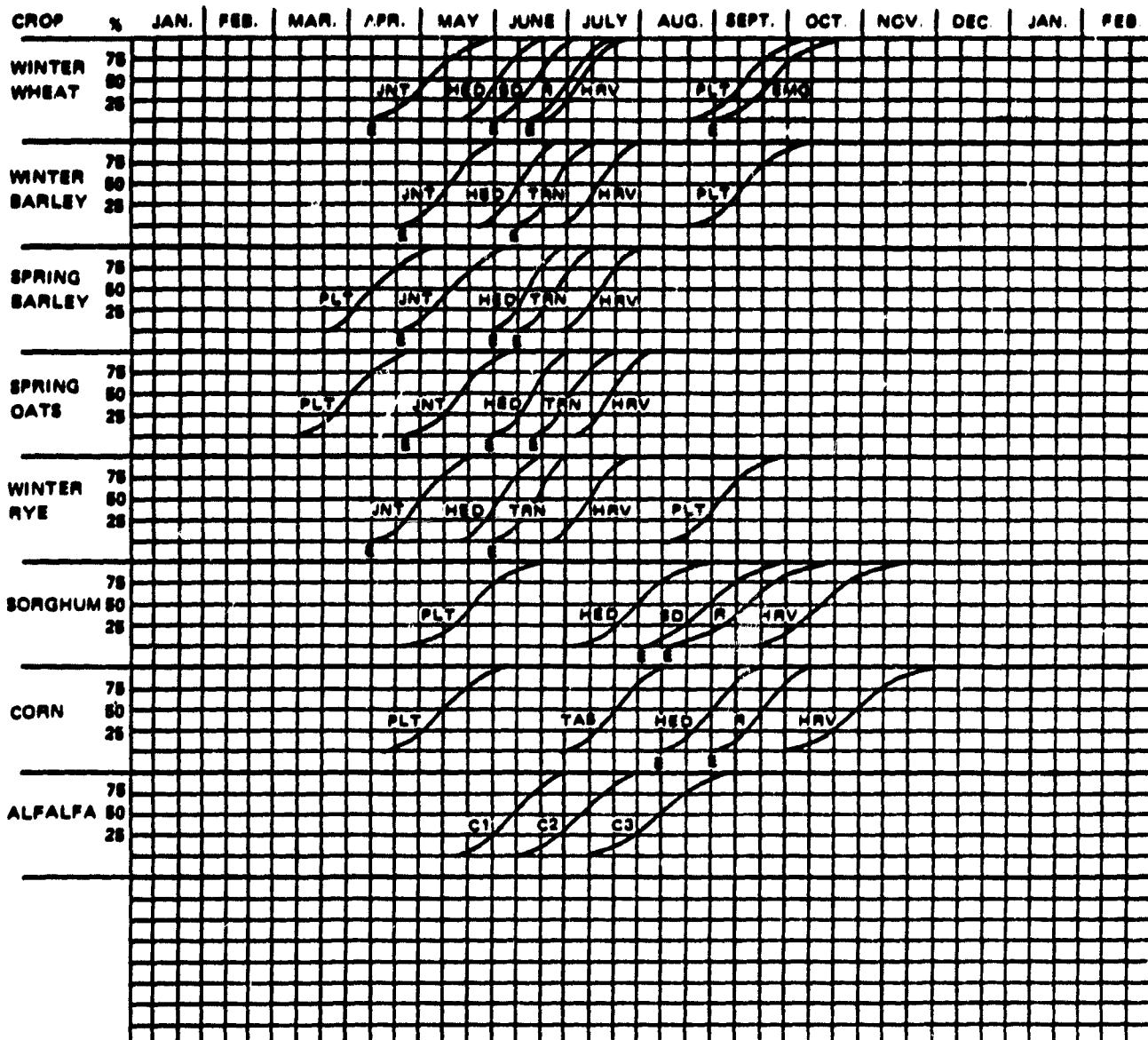


LEGEND

- E Under stage name, indicates rough estimate of date
- EMG Emergence
- HED Heading
- HRV Harvest
- JNT Jointing
- PLT Planting
- R Ripe
- SD Soft dough
- TRN Turning

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CROP CALENDARS PLOTTED 01/06/76  
PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR  
NEBRASKA CRD 70 AVERAGE CROP CALENDARS ENDING IN 1967

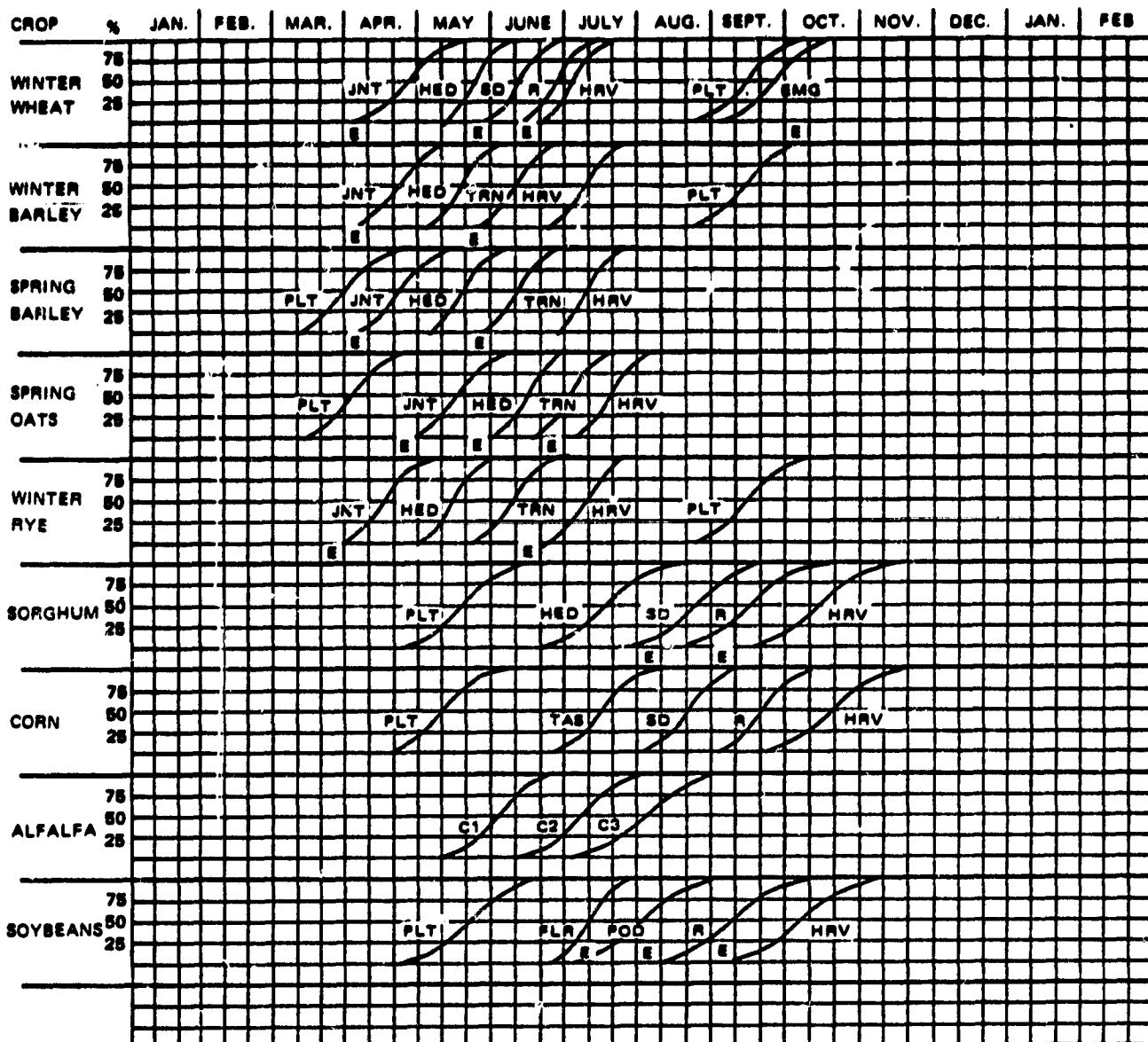


LEGEND

E	Under stage name, indicates rough estimate of date
EMG	Emergence
HED	Heading
HRV	Harvest
JNT	Jointing
PLT	Planting
R	Ripe
SD	Soft dough
TRN	Turning
C	Cut
FLR	Flowering

ORIGINAL PAGE IS  
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CROP CALENDARS PLOTTED 8/06/76  
PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR  
NEBRASKA CRD 50 AVERAGE CROP CALENDARS ENDING IN 1967

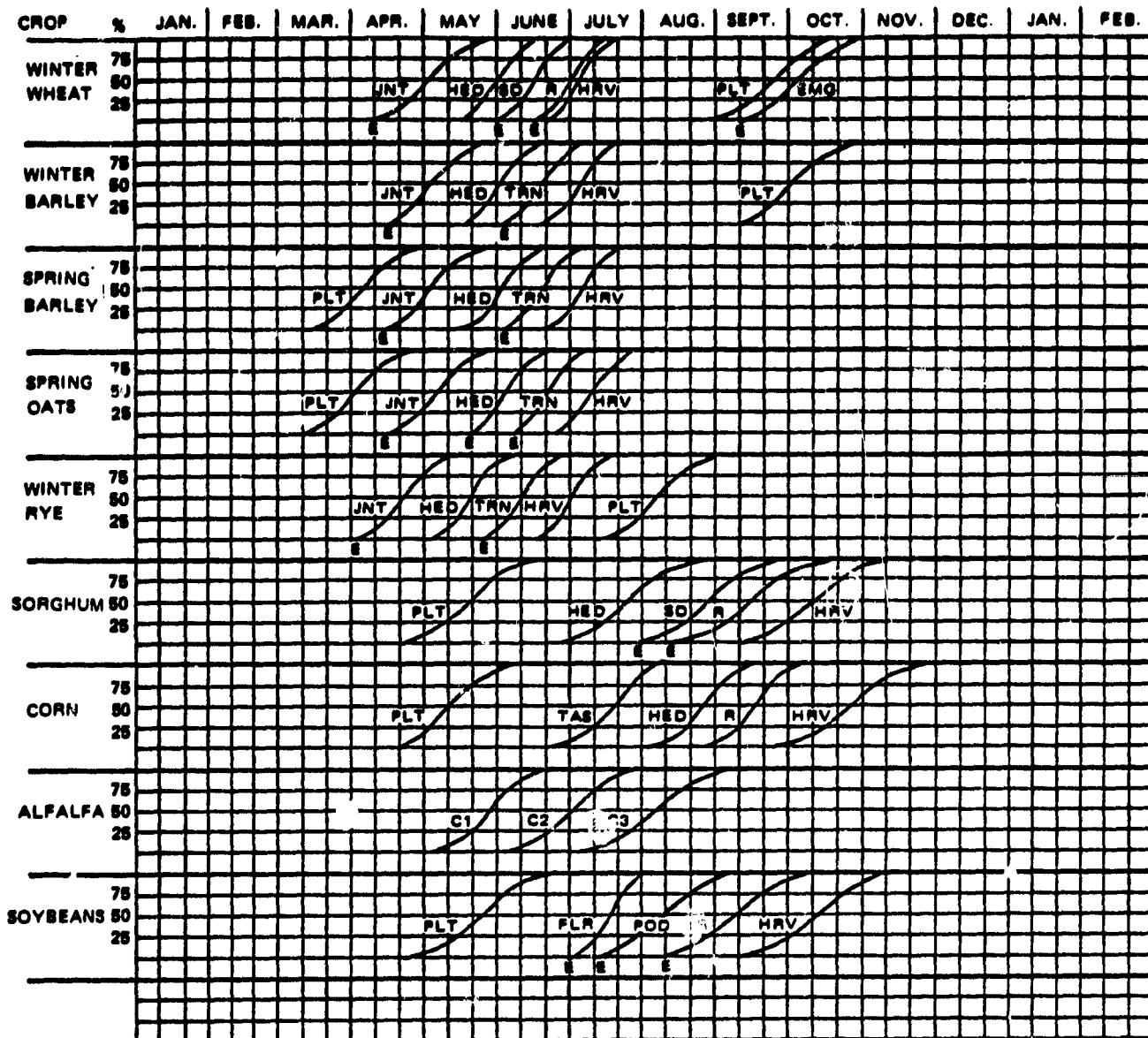


LEGEND

- E Under stage name, indicates rough estimate of date
- EMG Emergence
- HED Heading
- HRV Harvest
- JNT Jointing
- PLT Planting
- R Ripe
- SD Soft dough
- TRN Turning
- TAS Tasseling
- C Cut
- FLR Flowering

ORIGINAL PAGE IS  
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CROP CALENDARS PLOTTED 01/06/78  
PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR  
NEBRASKA CRD 90 AVERAGE CROP CALENDARS ENDING IN 1967

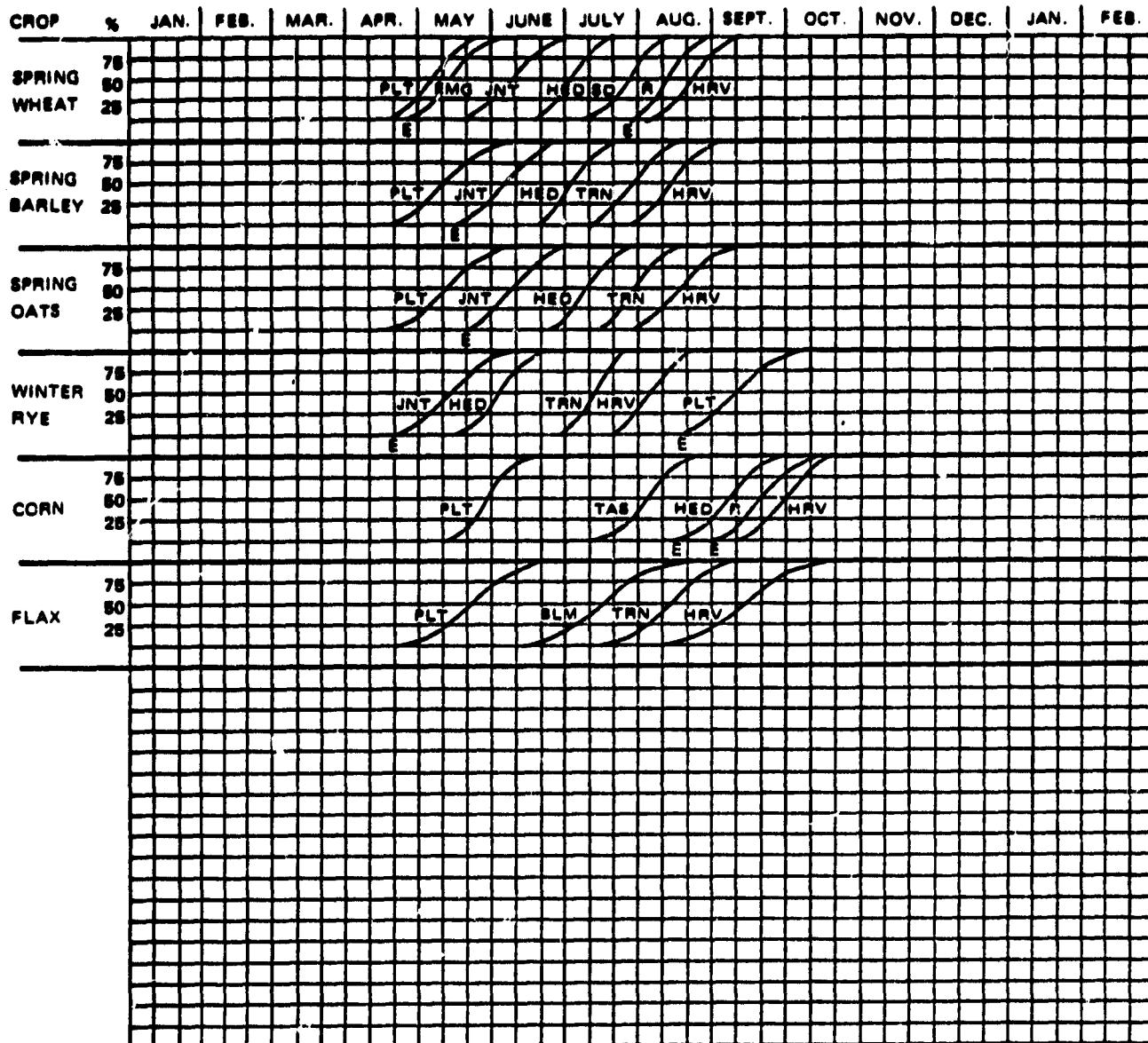


LEGEND

E	Under stage name, indicates rough estimate of date
EMG	Emergence
HED	Heading
HRV	Harvest
JNT	Jointing
PLT	Planting
R	Ripe
SD	Soft dough
TRN	Turning
C	Cut
TAS	Tasseling
FLR	Flowering

ORIGINAL PAGE IS  
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CROP CALENDAR PLOTTED 01/06/76  
PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR  
NORTH DAKOTA CRD 10 AVERAGE CROP CALENDARS FROM 1962 TO 1964

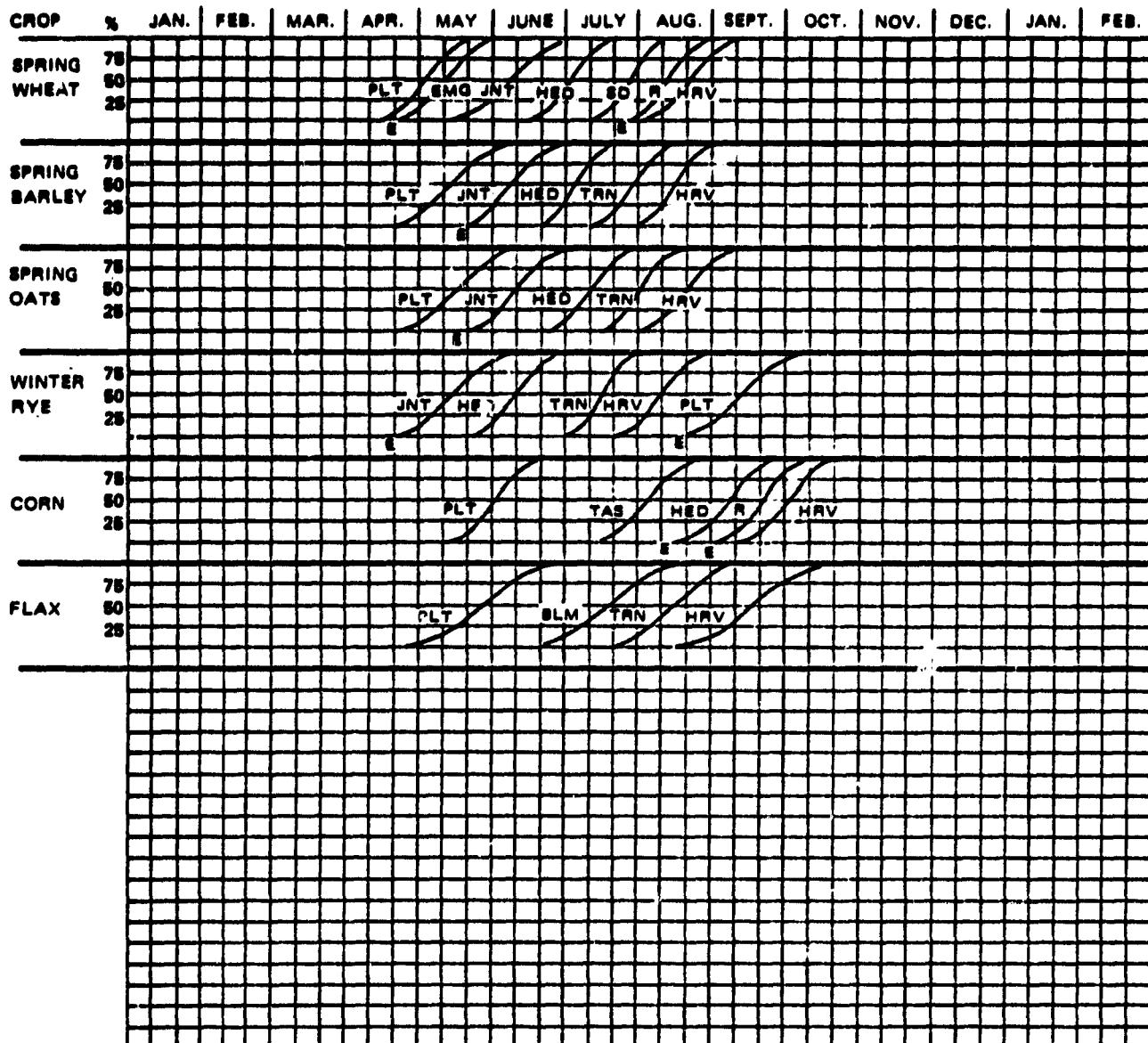


LEGEND

E	Under stage name, indicates rough estimate of date
EMG	Emergence
HED	Heading
HRV	Harvest
JNT	Jointing
PLT	Planting
R	Ripe
SD	Soft dough
TRN	Turning
TAS	Tasseling
BLM	Blooming

ORIGINAL PAGE IS  
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CROP CALENDARS PLOTTED 01/06/76  
PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR  
NORTH DAKOTA CRD 20 AVERAGE CROP CALENDARS FROM 1952 TO 1964

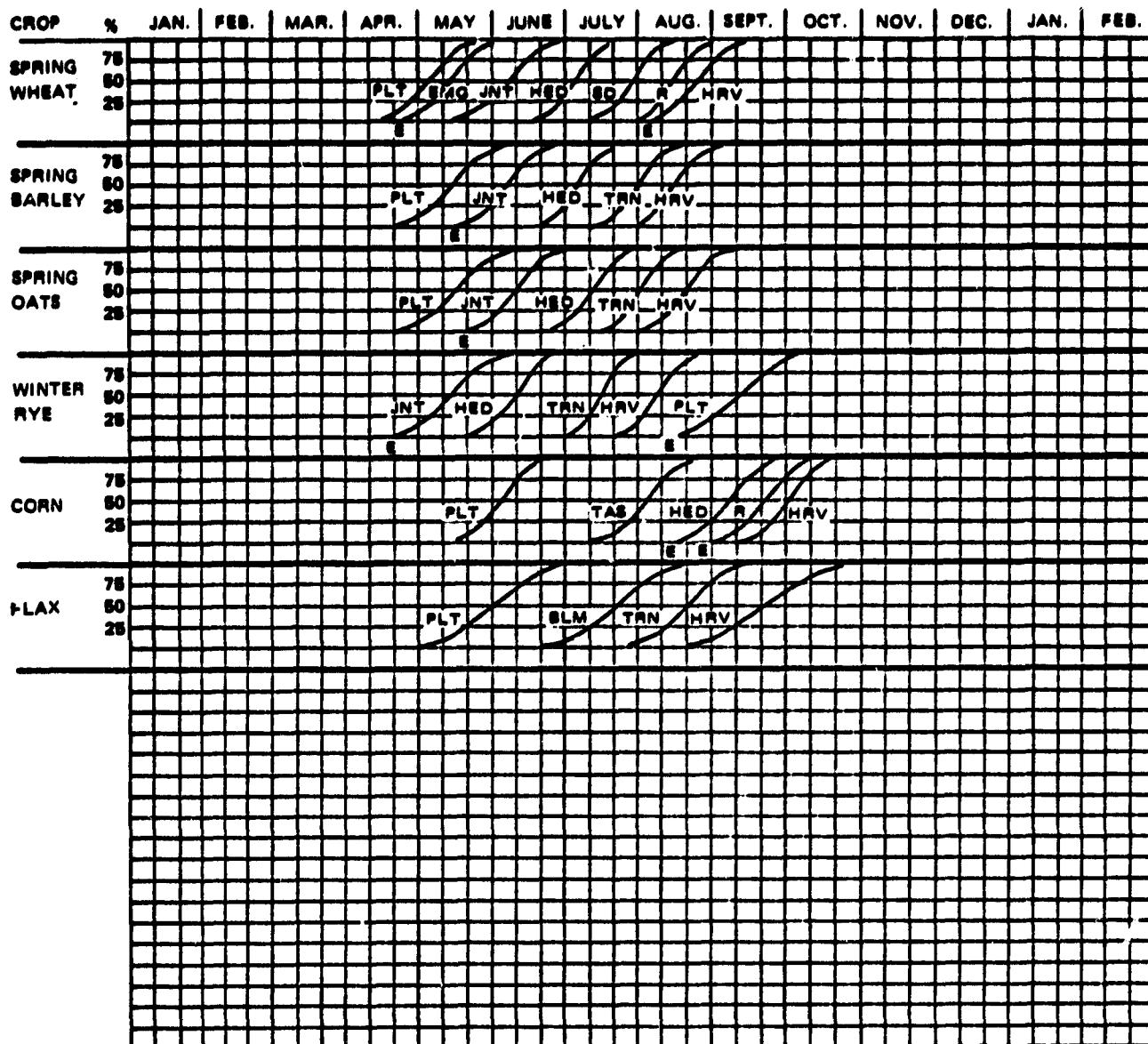


LEGEND

E	Under stage name, indicates rough estimate of date
EMG	Emergence
HED	Heading
HRV	Harvest
JNT	Jointing
PLT	Planting
R	Ripe
SD	Soft dough
TRN	Turning
TAS	Tasseling
BLM	Blooming

ORIGINAL PAGE IS  
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CROP CALENDARS PLOTTED 01/06/76  
PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR  
NORTH DAKOTA CRD 30 AVERAGE CROP CALENDARS FROM 1962 TO 1964

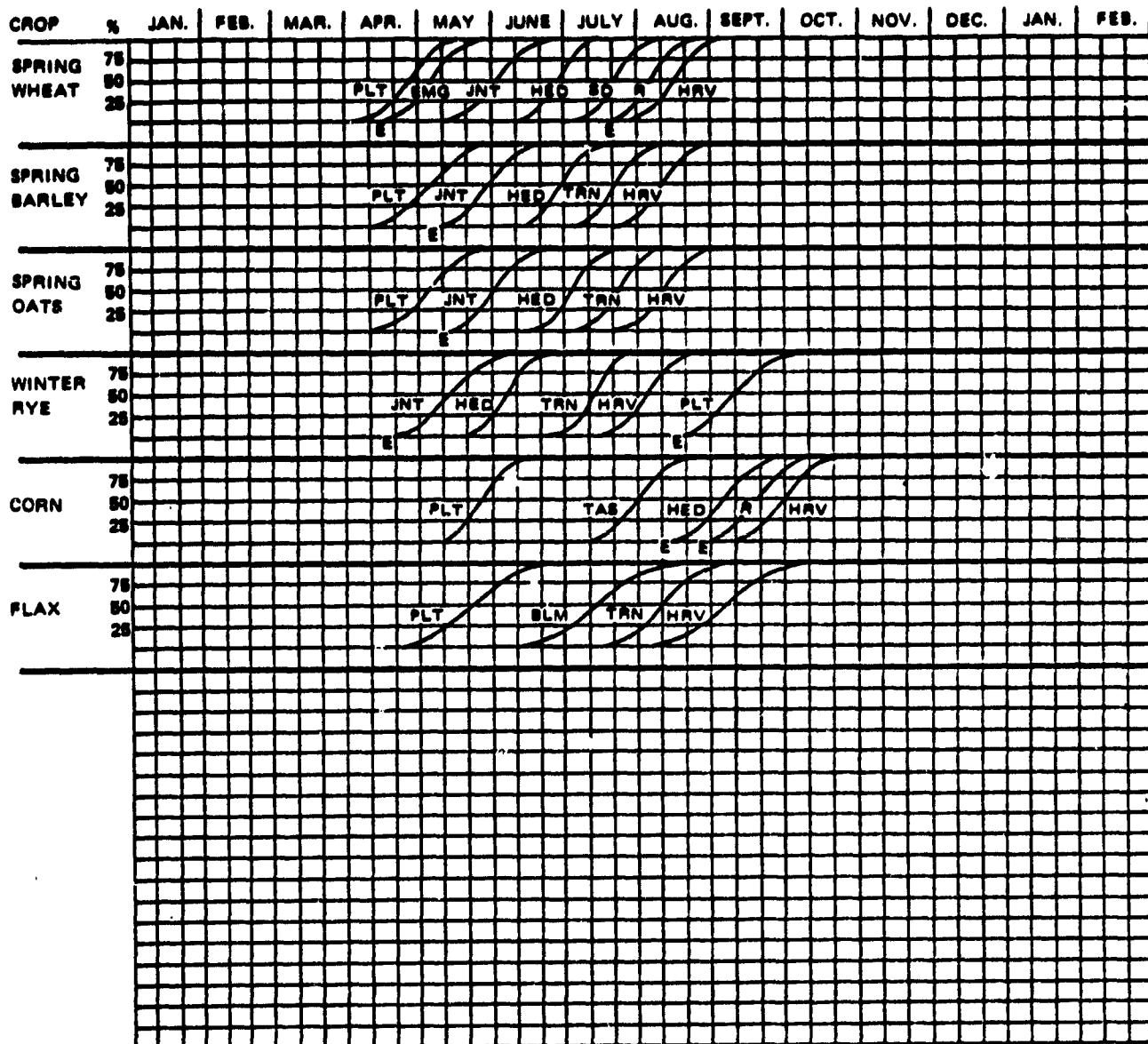


#### LEGEND

E	Under stage name, indicates rough estimate of date
EMG	Emergence
HED	Heading
HRV	Harvest
JNT	Jointing
PLT	Planting
R	Ripe
SD	Soft dough
TRN	Turning
TAS	Tasseling
BLM	Blooming

**ORIGINAL PAGE IS  
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CROP CALENDARS PLOTTED 01/06/76  
PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR  
NORTH DAKOTA CRD 40 AVERAGE CROP CALENDARS FROM 1962 TO 1964

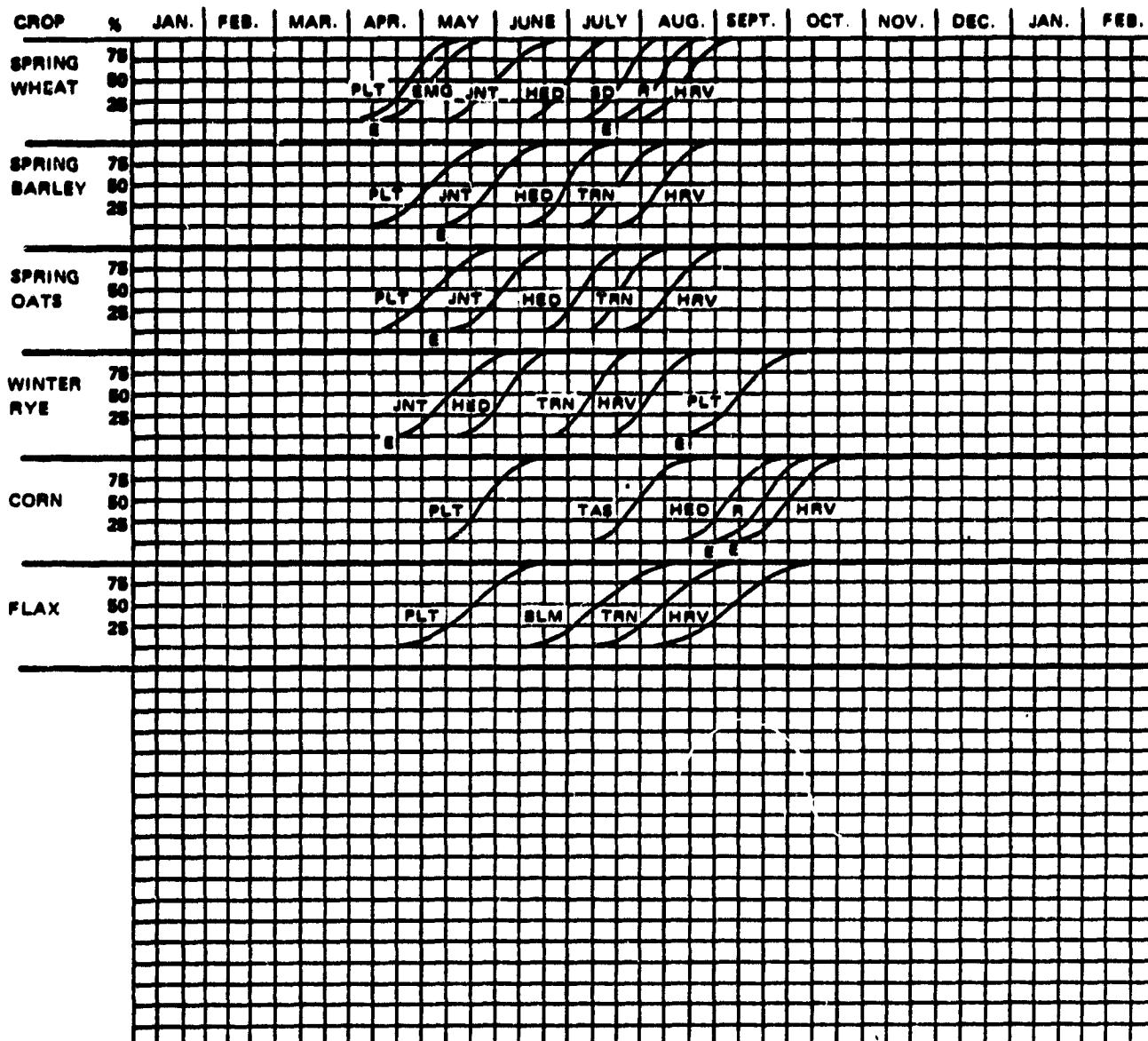


**LEGEND**

E	Under stage name, indicates rough estimate of date
EMG	Emergence
HED	Heading
HRV	Harvest
JNT	Jointing
PLT	Planting
R	Ripe
SD	Soft dough
TRN	Turning
TAS	Tasseling
BLM	Blooming

ORIGINAL PAGE IS  
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CROP CALENDARS PLOTTED 01/06/76  
PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR  
NORTH DAKOTA CRO 50 AVERAGE CROP CALENDARS FROM 1962 TO 1964



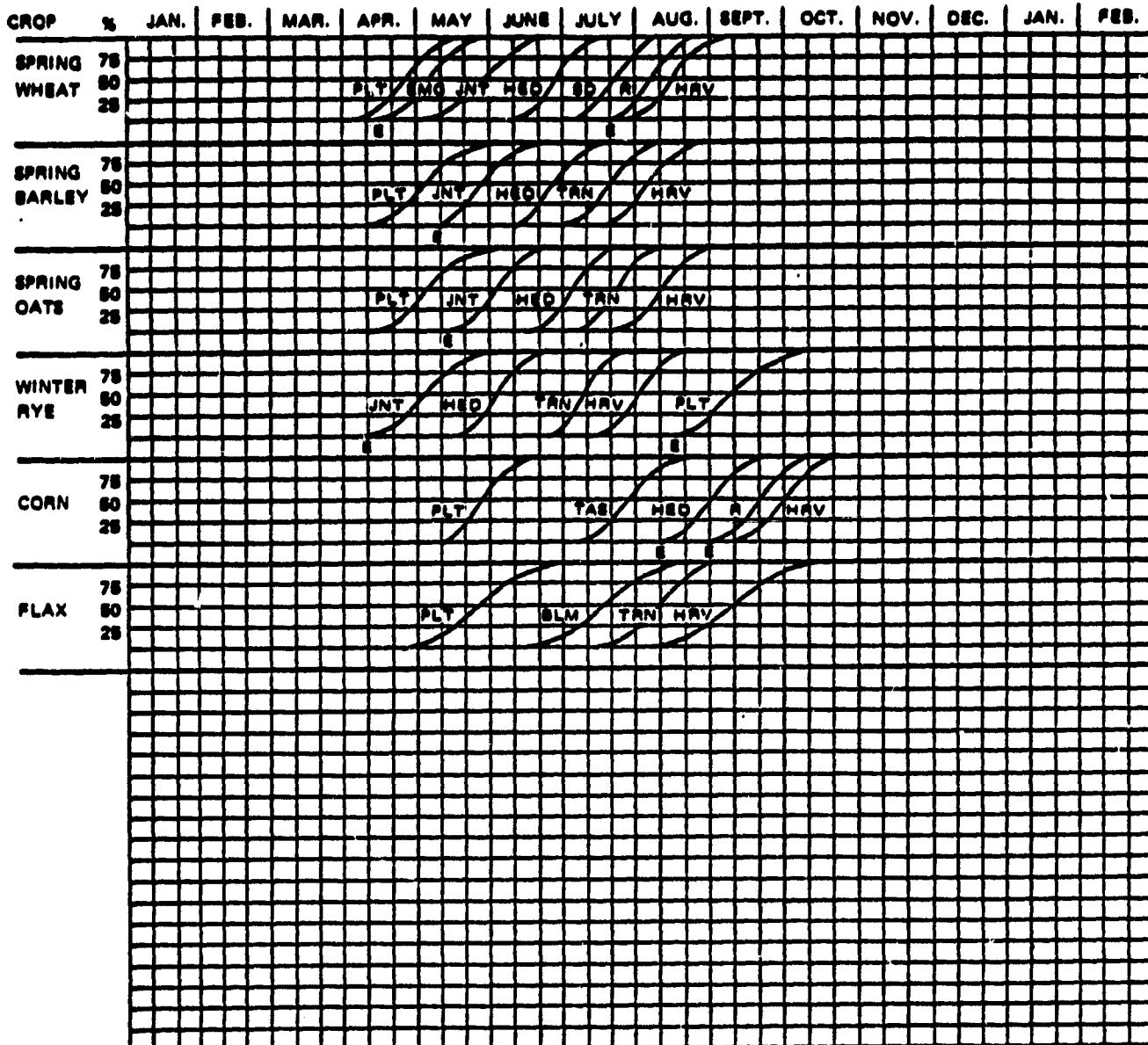
LEGEND

E	Under stage name, indicates rough estimate of date
EMG	Emergence
HED	Heading
HRV	Harvest
JNT	Jointing
PLT	Planting
R	Ripe
SD	Soft dough
TRN	Turning
TAS	Tasseling
BLM	Blooming

**ORIGINAL PAGE IS  
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CROP CALENDARS PLOTTED 01/06/76

PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR  
NORTH DAKOTA CRD 60 AVERAGE CROP CALENDARS FROM 1962 TO 1964

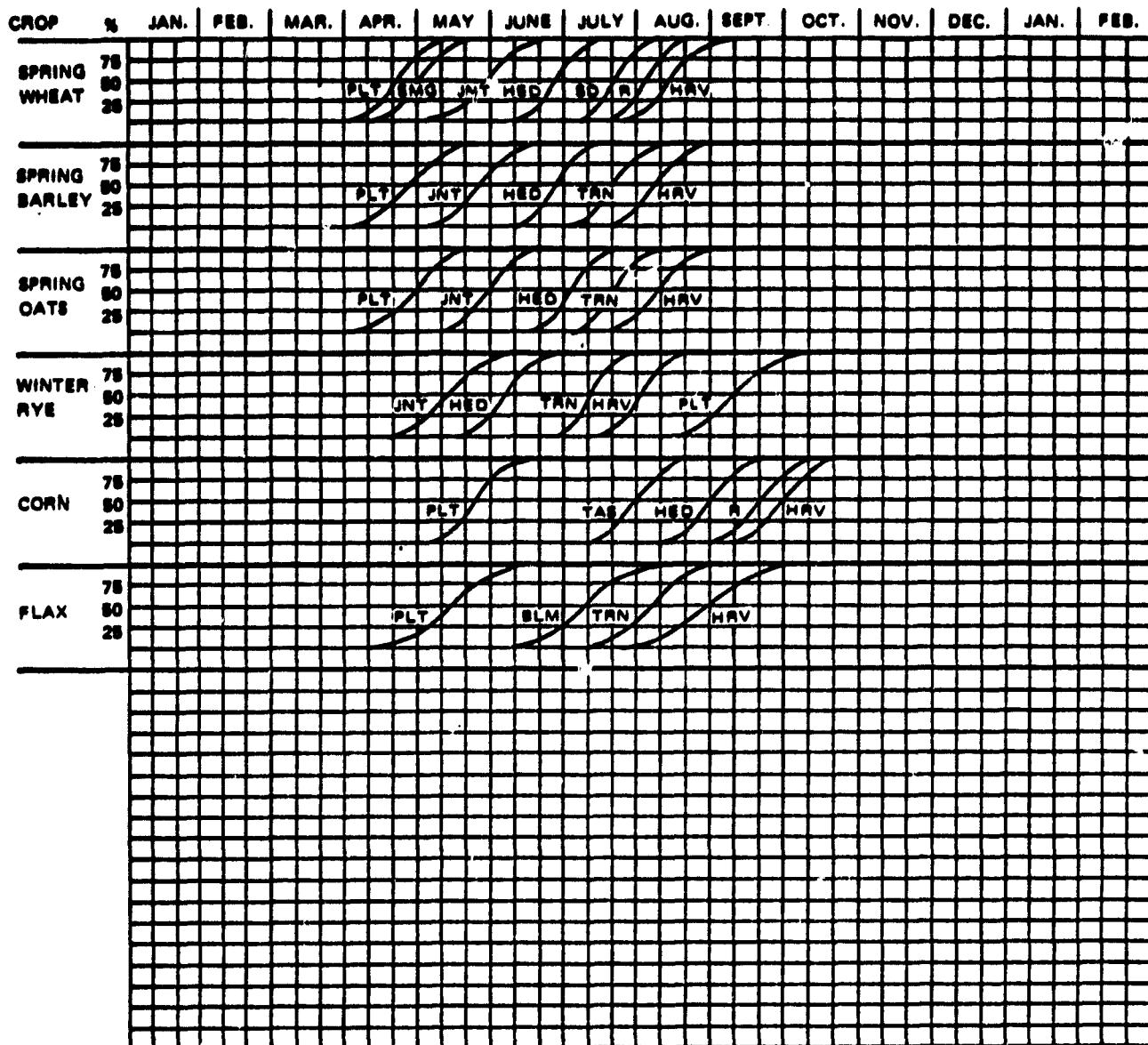


**LEGEND**

E	Under stage name, indicates rough estimate of date
EMG	Emergence
HED	Heading
HRV	Harvest
JNT	Jointing
PLT	Planting
R	Ripe
SD	Soft dough
TRN	Turning
TAS	Tasseling
BLM	Blooming

ORIGINAL PAGE IS  
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CROP CALENDARS PLOTTED 01/06/76  
PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR  
NORTH DAKOTA CRD 70 AVERAGE CROP CALENDARS FROM 1952 TO 1964

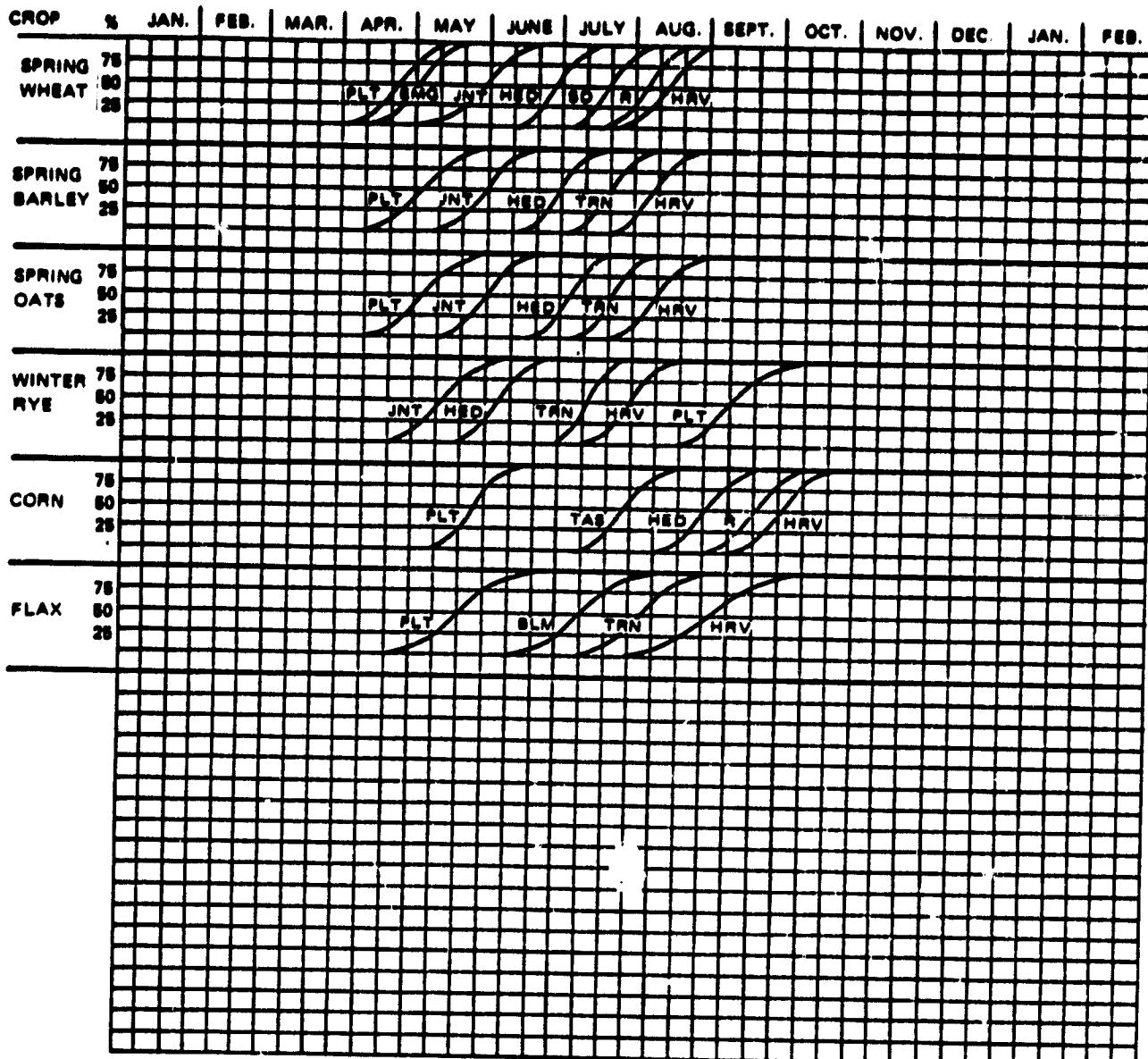


LEGEND

E	Under stage name, indicates rough estimate of date
EMG	Emergence
HED	Heading
HRV	Harvest
JNT	Jointing
PLT	Planting
R	Ripe
SD	Soft dough
TRN	Turning
TAS	Tasseling
BLM	Blooming

ORIGINAL PAGE IS  
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CROP CALENDARS PLOTTED 01/06/76  
PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR  
NORTH DAKOTA CRD TO AVERAGE CROP CALENDARS FROM 1962 TO 1964

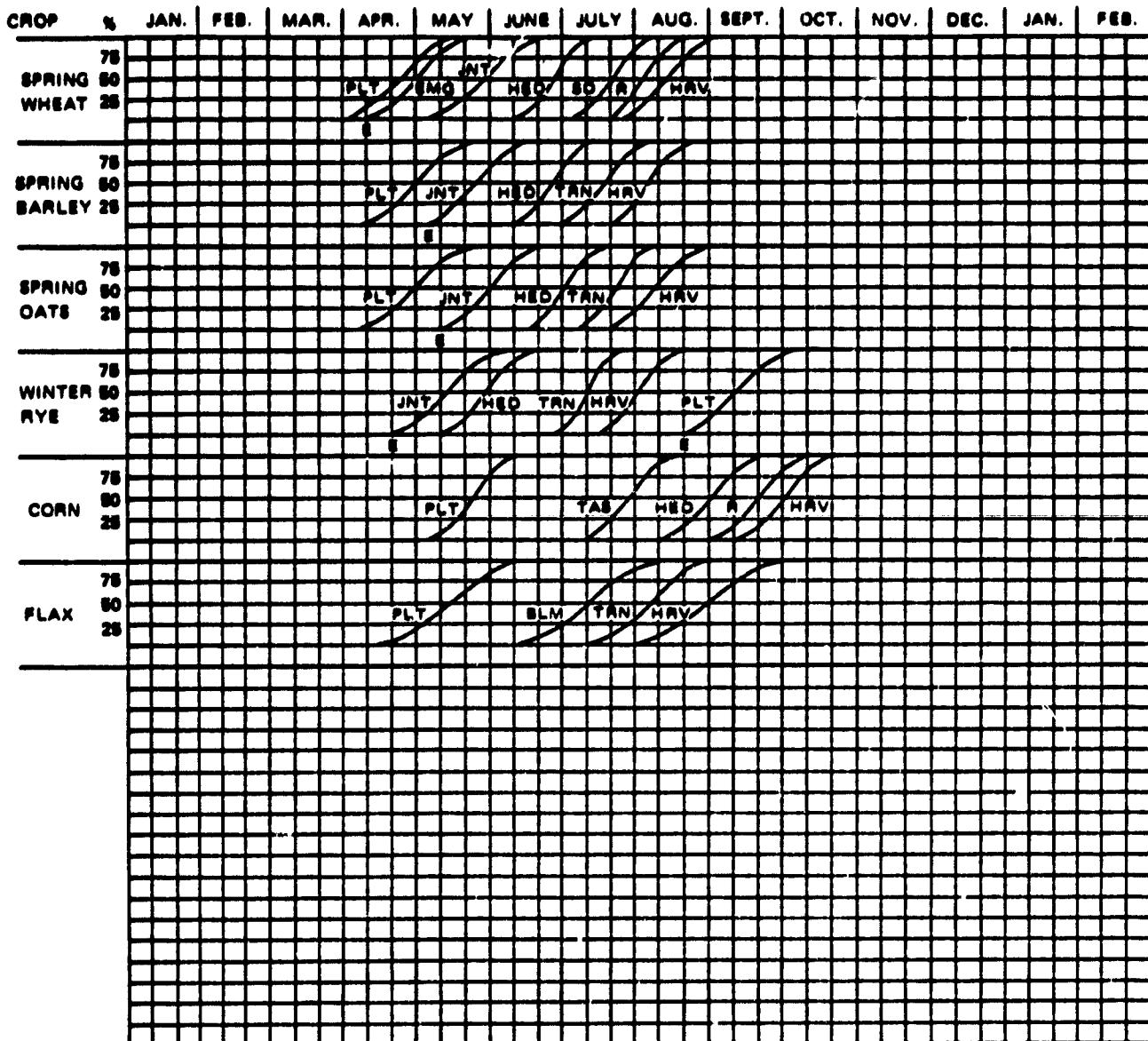


LEGEND

- E Under stage name, indicates rough estimate of date
- EMG Emergence
- HED Heading
- HRV Harvest
- JNT Jointing
- PLT Planting
- R Ripe
- SD Soft dough
- TRN Turning
- TAS Tasseling
- BLM Blooming

**ORIGINAL PAGE IS  
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**CROP CALENDARS PLOTTED 01/08/78**  
**PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR**  
**NORTH DAKOTA CRD 80 AVERAGE CROP CALENDARS FROM 1962 TO 1964**

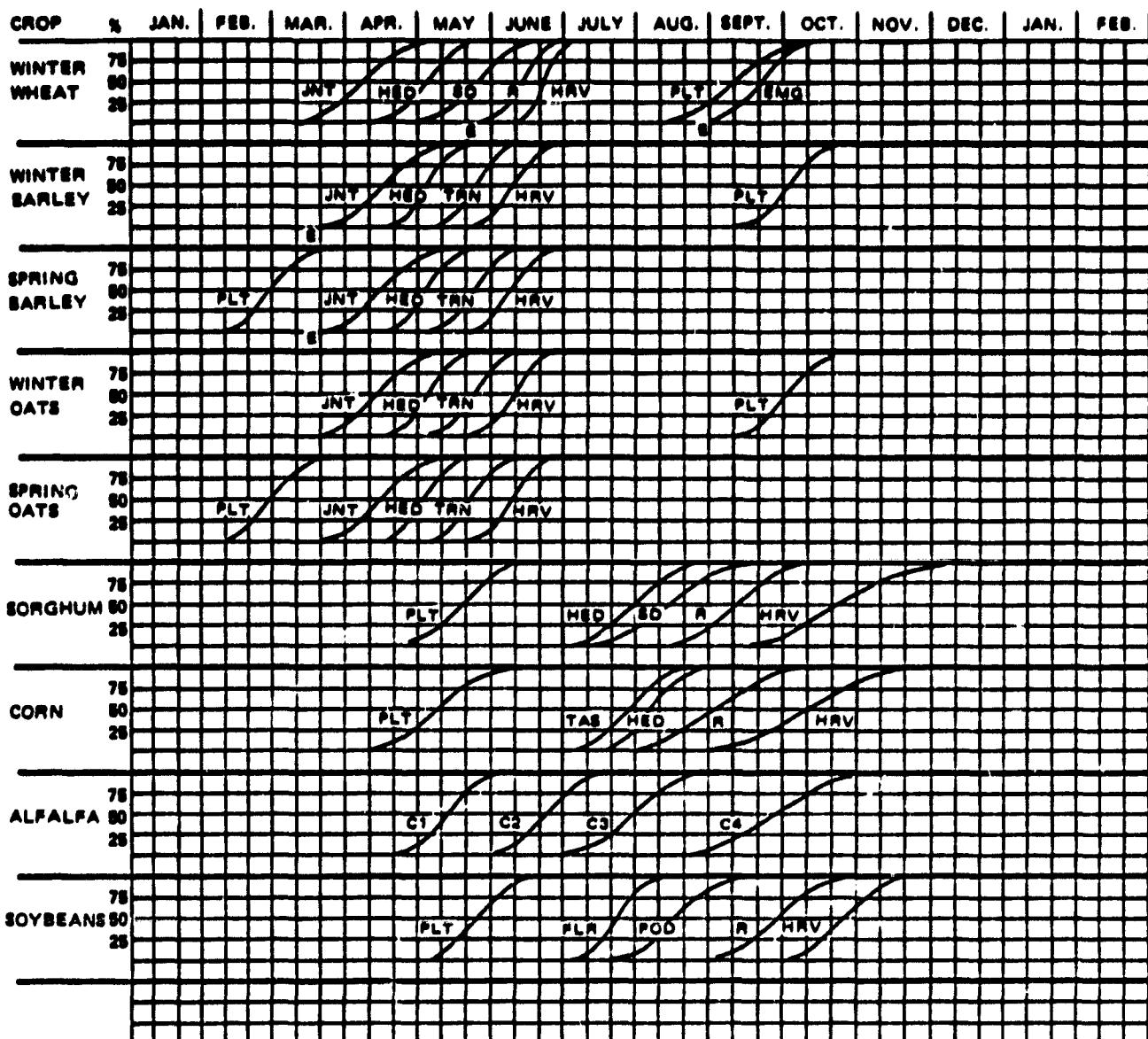


## **LEGEND**

<b>E</b>	Under stage name, indicates rough estimate of date
<b>EMG</b>	Emergence
<b>HED</b>	Heading
<b>HRV</b>	Harvest
<b>JNT</b>	Jointing
<b>PLT</b>	Planting
<b>R</b>	Ripe
<b>SD</b>	Soft dough
<b>TRN</b>	Turning
<b>TAS</b>	Tasseling
<b>BLM</b>	Blooming

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CROP CALENDARS PLOTTED 01/06/76  
PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR  
OKLAHOMA CRD 11 AVERAGE CROP CALENDARS FROM 1964 TO 1973

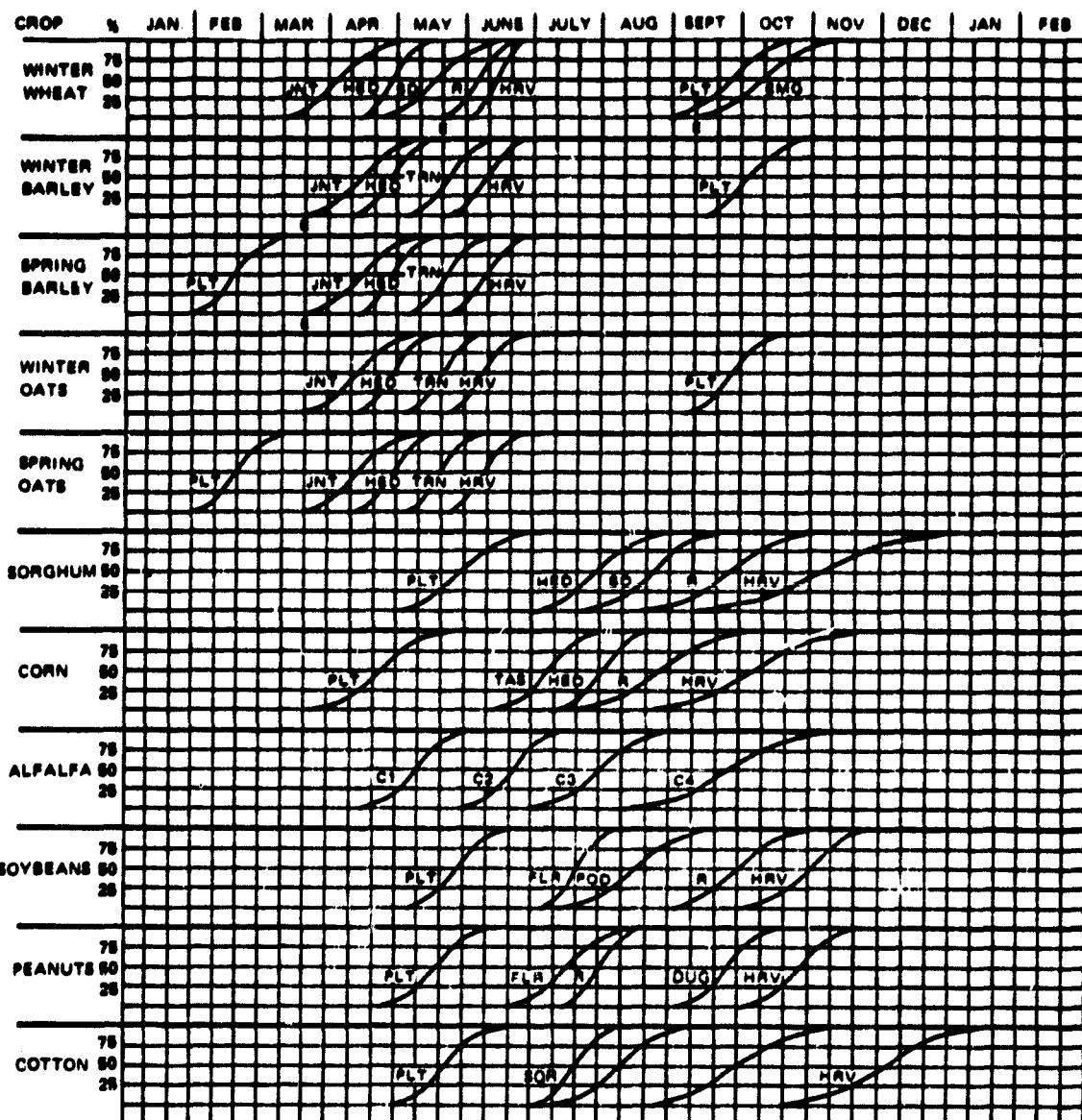


LEGEND

- E Under stage name, indicates rough estimate of date
- EMG Emergence
- HED Heading
- HRV Harvest
- JNT Jointing
- PLT Planting
- R Ripe
- SD Soft dough
- TRN Turning
- TAS Tasseling
- C Cut
- FLR Flowering

**ORIGINAL PAGE IS  
OF POOR QUALITY**

CROP CALENDARS PLOTTED 01/06/76  
PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR  
OKLAHOMA CRD 24 AVERAGE CROP CALENDARS FROM 1964 TO 1973

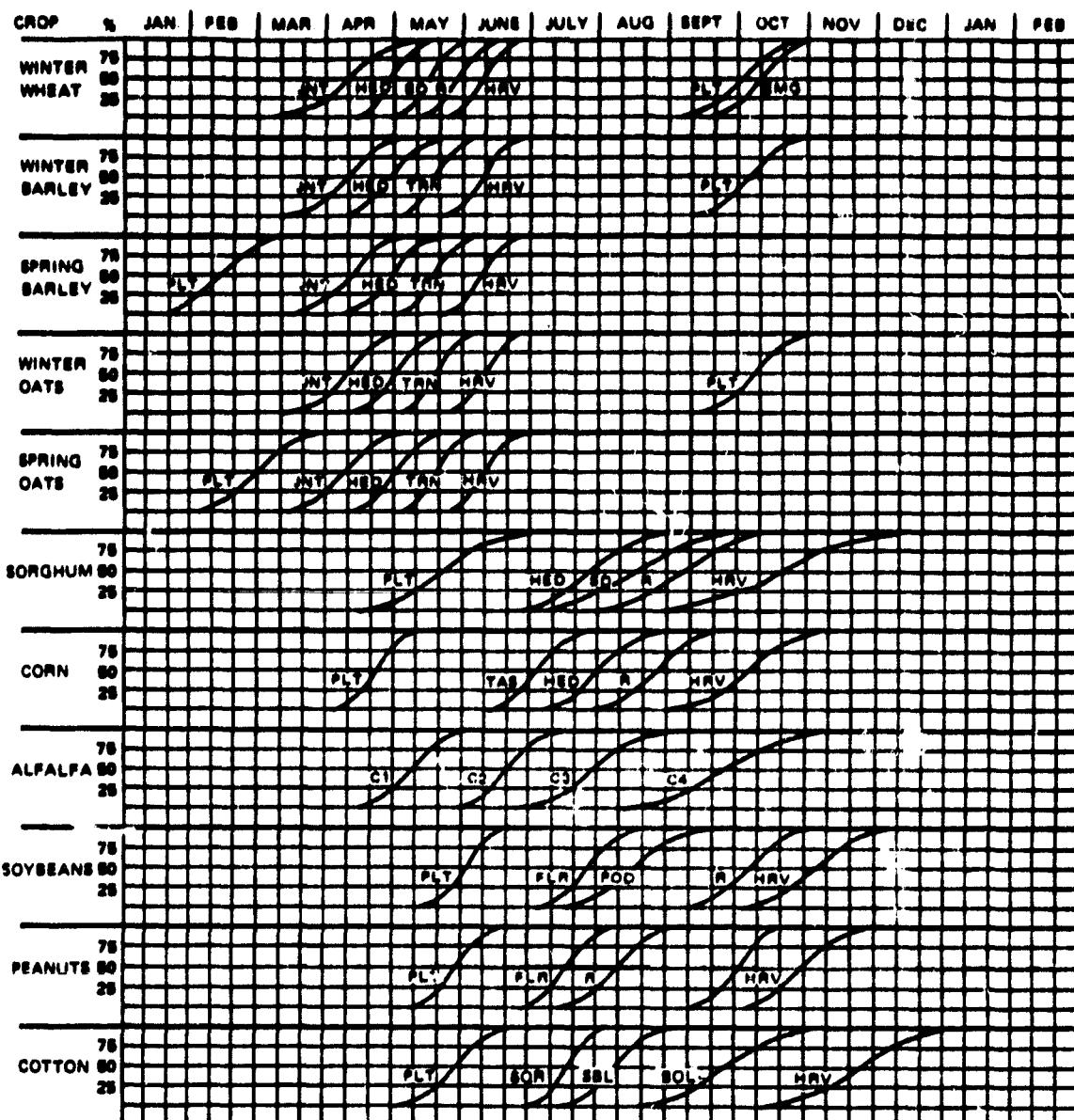


**LEGEND**

E	Under stage name, indicates rough estimate of date
EMG	Emergence
HED	Heading
HRV	Harvest
JNT	Jointing
PLT	Planting
R	Ripe
SD	Soft dough
TRN	Turning
TAS	Tasseling
FLR	Flowering
SBL	Soft boll
BOL	Boiling
SQR	Squaring

**ORIGINAL PAGE 10**  
**OF POOR QUALITY**

CROP CALENDARS PLOTTED 01/06/76  
PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR  
OKLAHOMA CRD 37 AVERAGE CROP CALENDARS FROM 1964 TO 1973

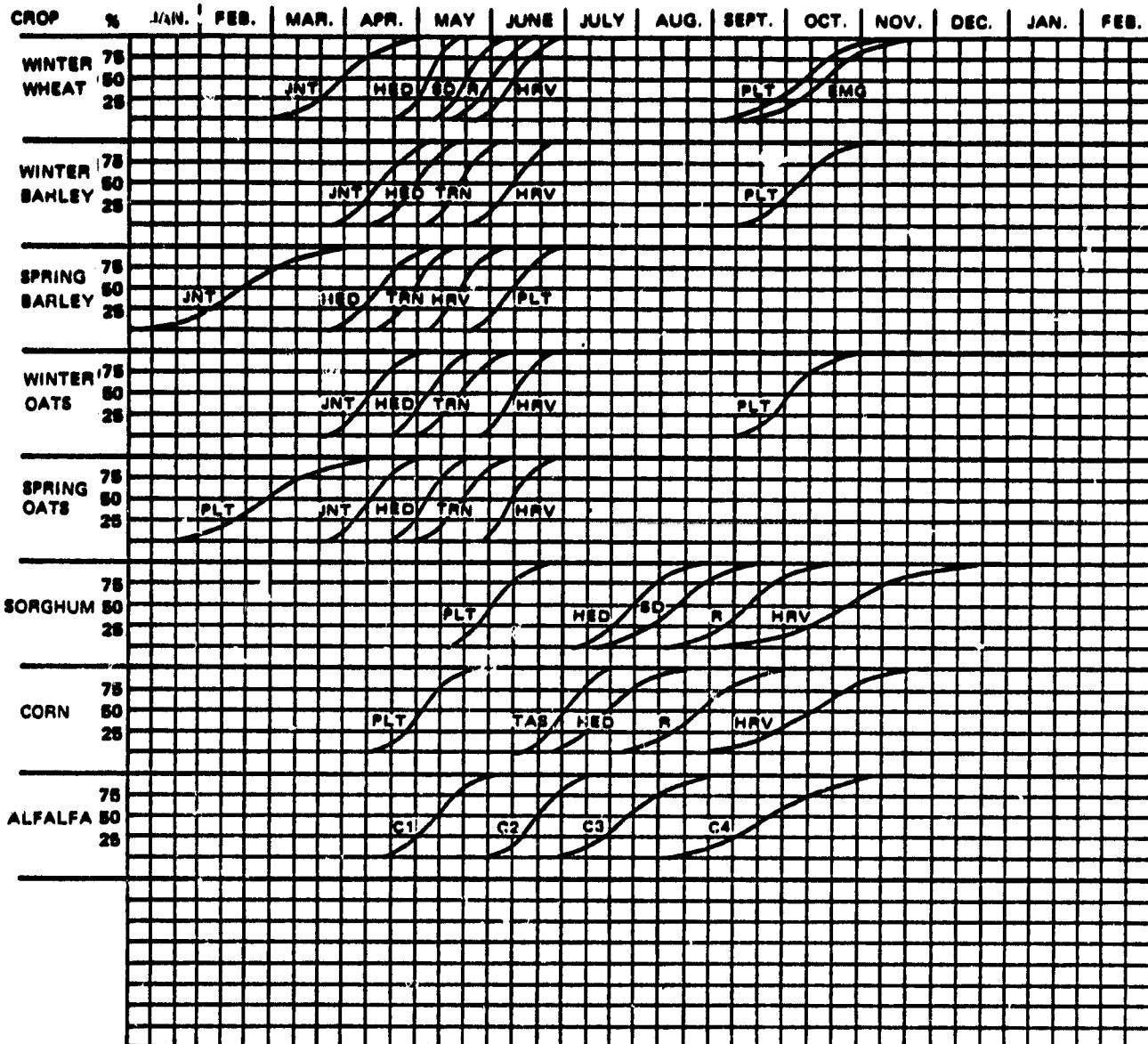


**LEGEND**

E	Under stage name, indicates rough estimate of date
EMG	Emergence
HED	Heading
HRV	Harvest
JNT	Jointing
PLT	Planting
R	Ripe
SD	Soft dough
TAL	Tasseling
FLR	Flowering
SQR	Squaring
SSL	Soft boll
BOL	Bolling

ORIGINAL PAGE IS  
OF POOR QUALITY

CROP CALENDARS PLOTTED 01/06/76  
PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR  
OKLAHOMA CHU 42 AVERAGE CROP CALENDARS FROM 1964 TO 1973

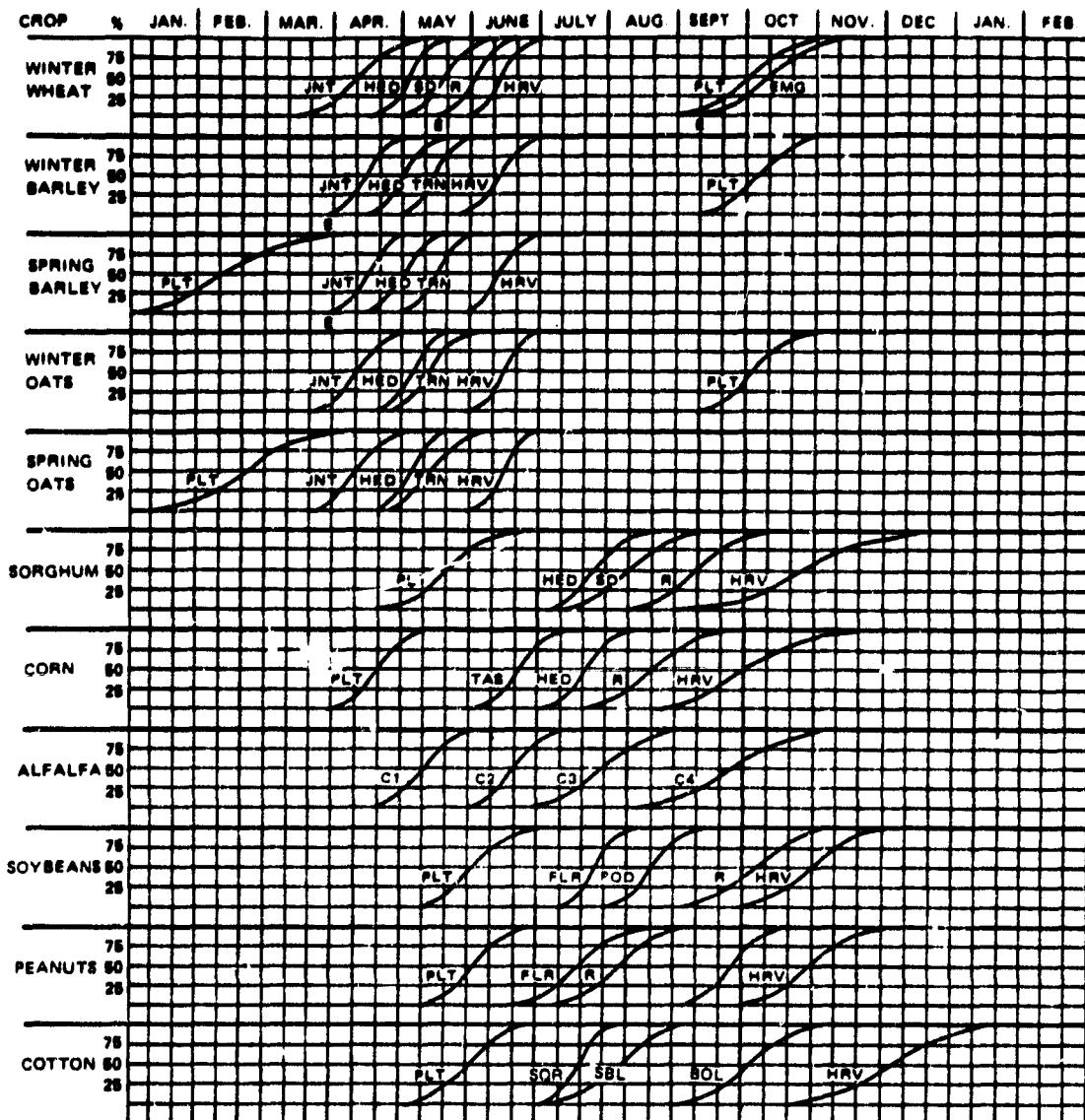


LEGEND

E	Under stage name, indicates rough estimate of date
EMG	Emergence
HED	Heading
HRV	Harvest
JNT	Jointing
PLT	Planting
R	Ripe
SD	Soft dough
TRN	Turning
TAS	Tasseling
C	Cut

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OF POOR QUALITY

CROP CALENDARS PLOTTED 01/06/76  
PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR  
OKLAHOMA CRD 58 AVERAGE CROP CALENDARS FROM 1964 TO 1973

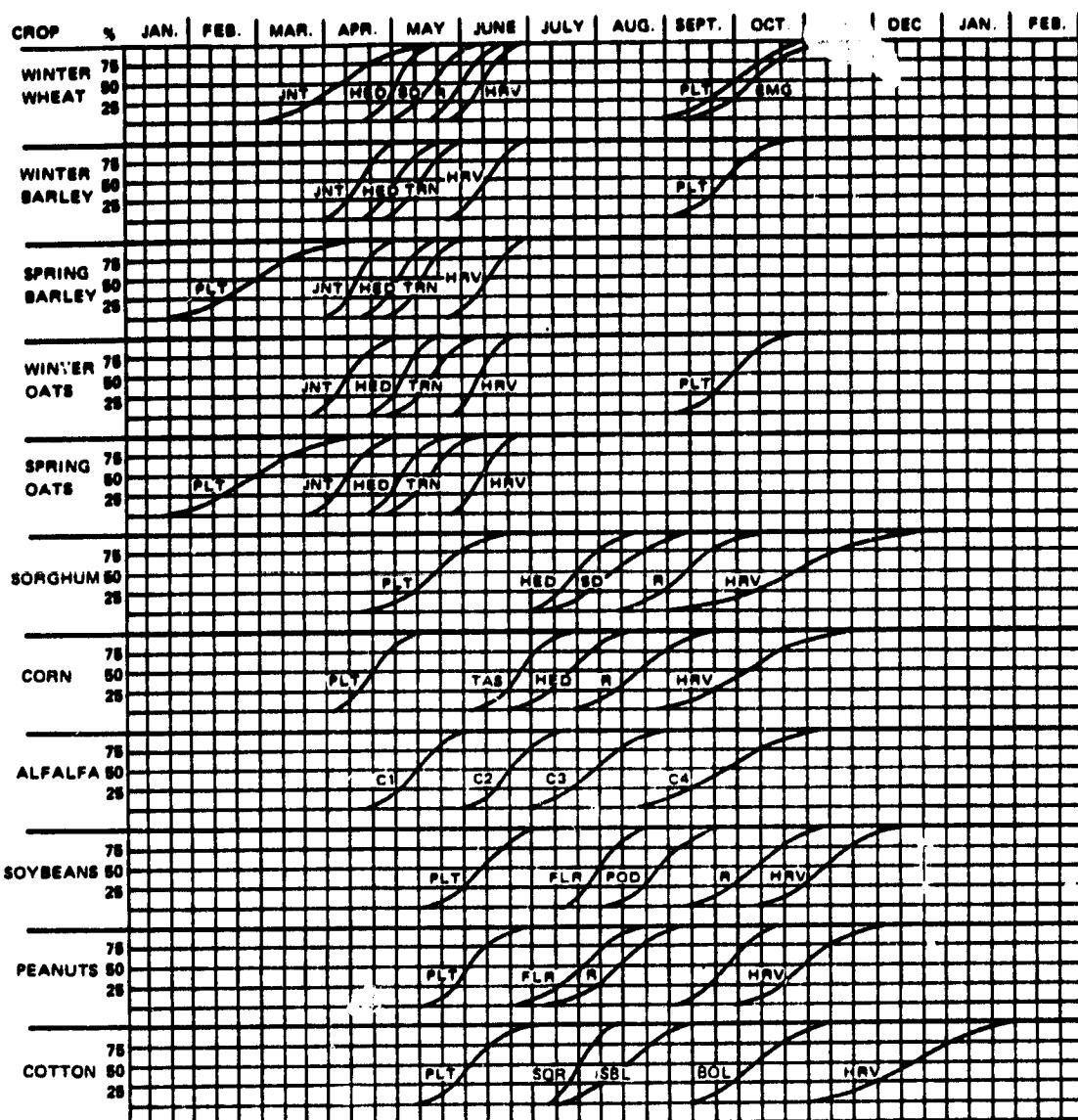


LEGEND

E	Under stage name, indicates rough estimate of date
EMG	Emergence
HED	Heading
HRV	Harvest
JNT	Jointing
PLT	Planting
R	Ripe
SD	Soft dough
TRN	Turning
TAS	Tasseling
C	Cut
FLR	Flowering
SQR	Squaring
SBL	Soft boll
BOL	Bolling

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OF POOR QUALITY

CROP CALENDARS PLOTTED 01/06/76  
PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR  
OKLAHOMA CRD 68 AVERAGE CROP CALENDARS FROM 1964 TO 1973

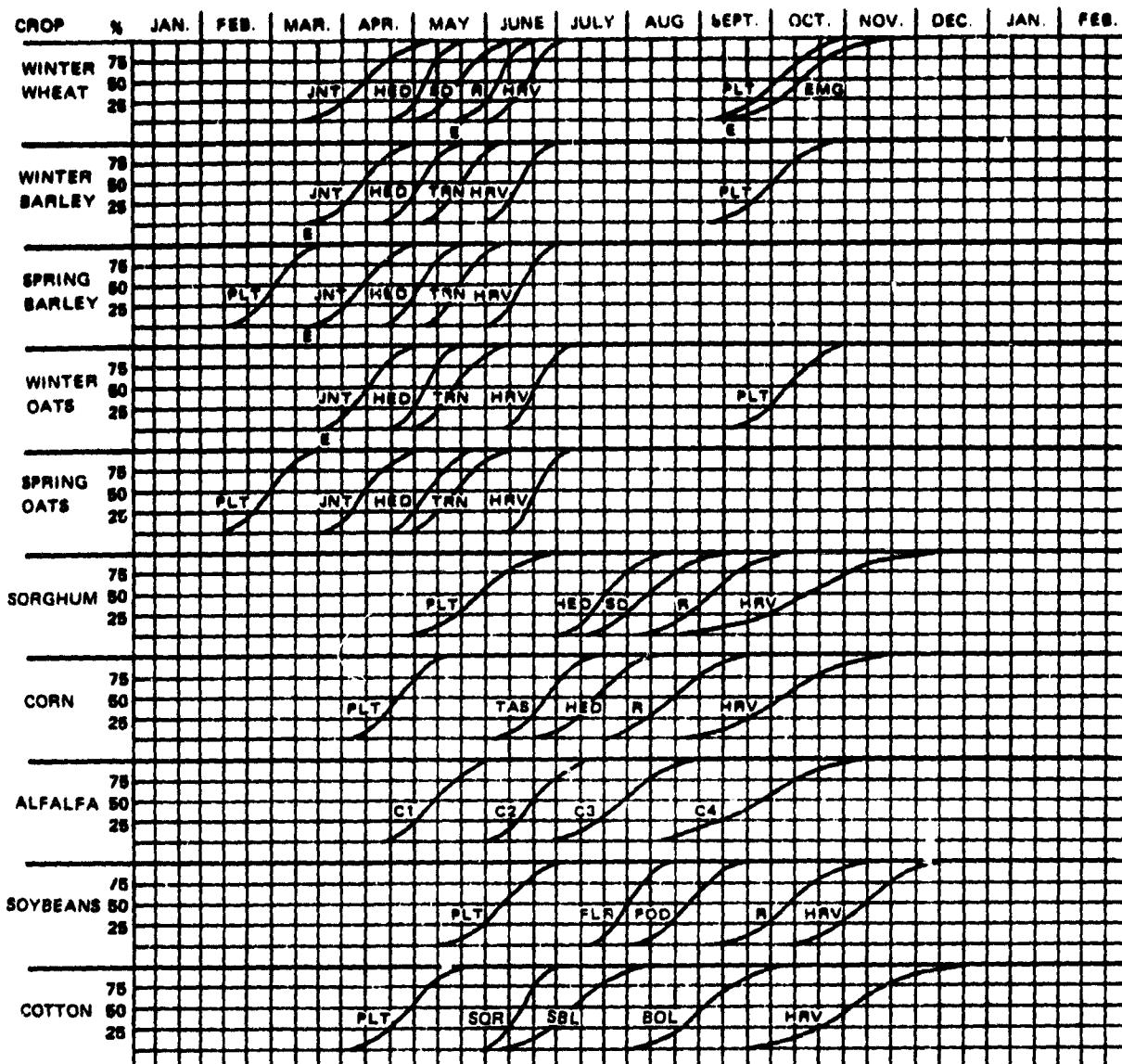


LEGEND

E	Under stage name, indicates rough estimate of date
EMG	Emergence
HED	Heading
HRV	Harvest
JNT	Jointing
PLT	Planting
R	Ripe
SD	Soft dough
TRN	Turning
TAS	Tasseling
C	Cut
FLR	Flowering
SQR	Squaring
SSL	Soft boll
BOL	Bolling

ORIGINAL PAGE IS  
OF POOR QUALITY

CROP CALENDARS PLOTTED 01/06/76  
PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR  
OKLAHOMA CRD 73 AVERAGE CROP CALENDARS FROM 1964 TO 1973

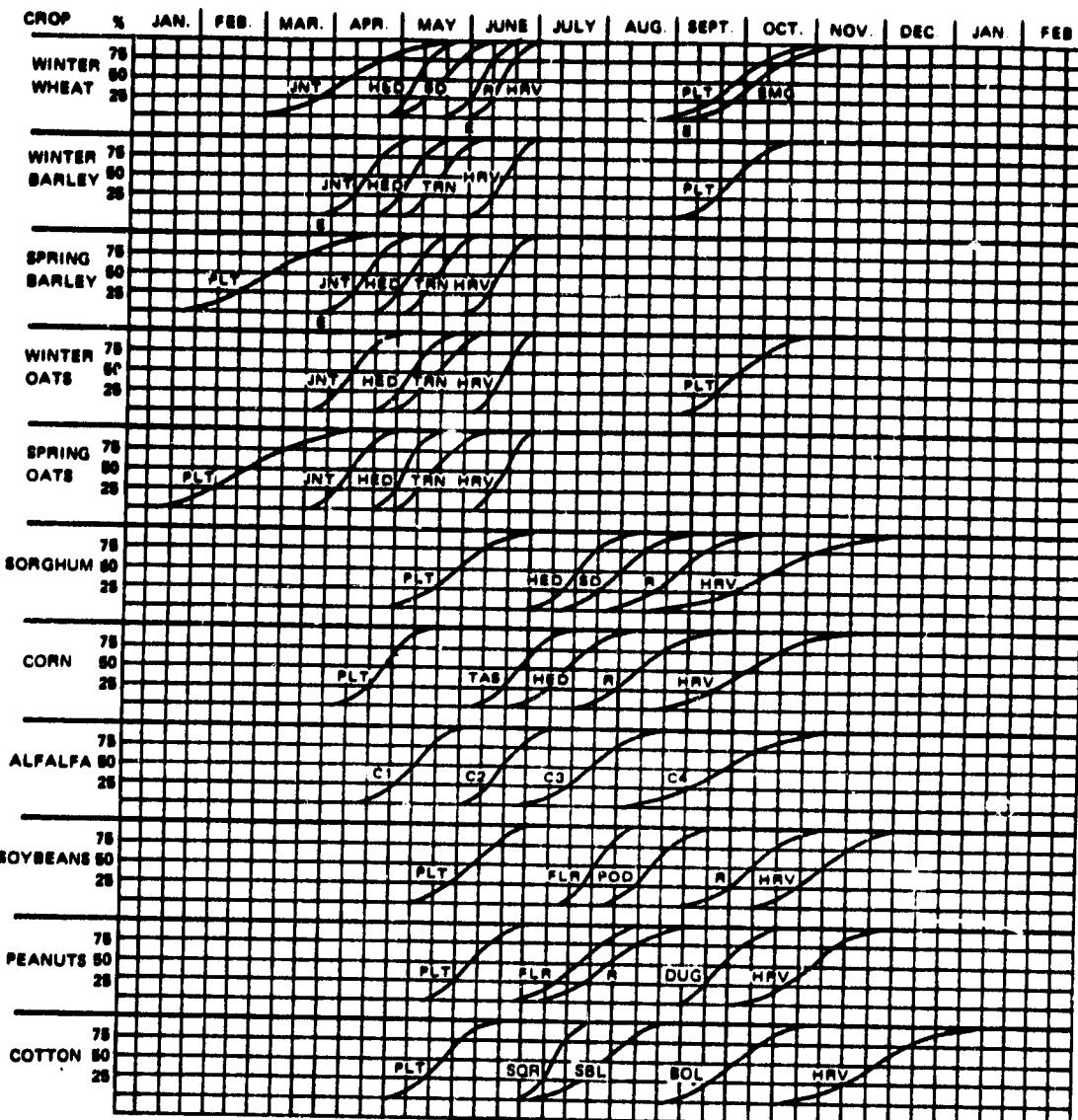


LEGEND

E	Under stage name, indicates rough estimate of date
EMG	Emergence
HED	Heading
HRV	Harvest
JNT	Jointing
PLT	Planting
R	Ripe
SD	Soft dough
TRN	Turning
TAS	Tasseling
C	Cut
FLR	Flowering
SQR	Squaring
SBL	Soft boll
BOL	Bolling

ORIGINAL PAGE IS  
OF POOR QUALITY

CROP CALENDARS PLOTTED 01/08/76  
PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR  
OKLAHOMA CRD 86 AVERAGE CROP CALENDARS FROM 1964 TO 1973

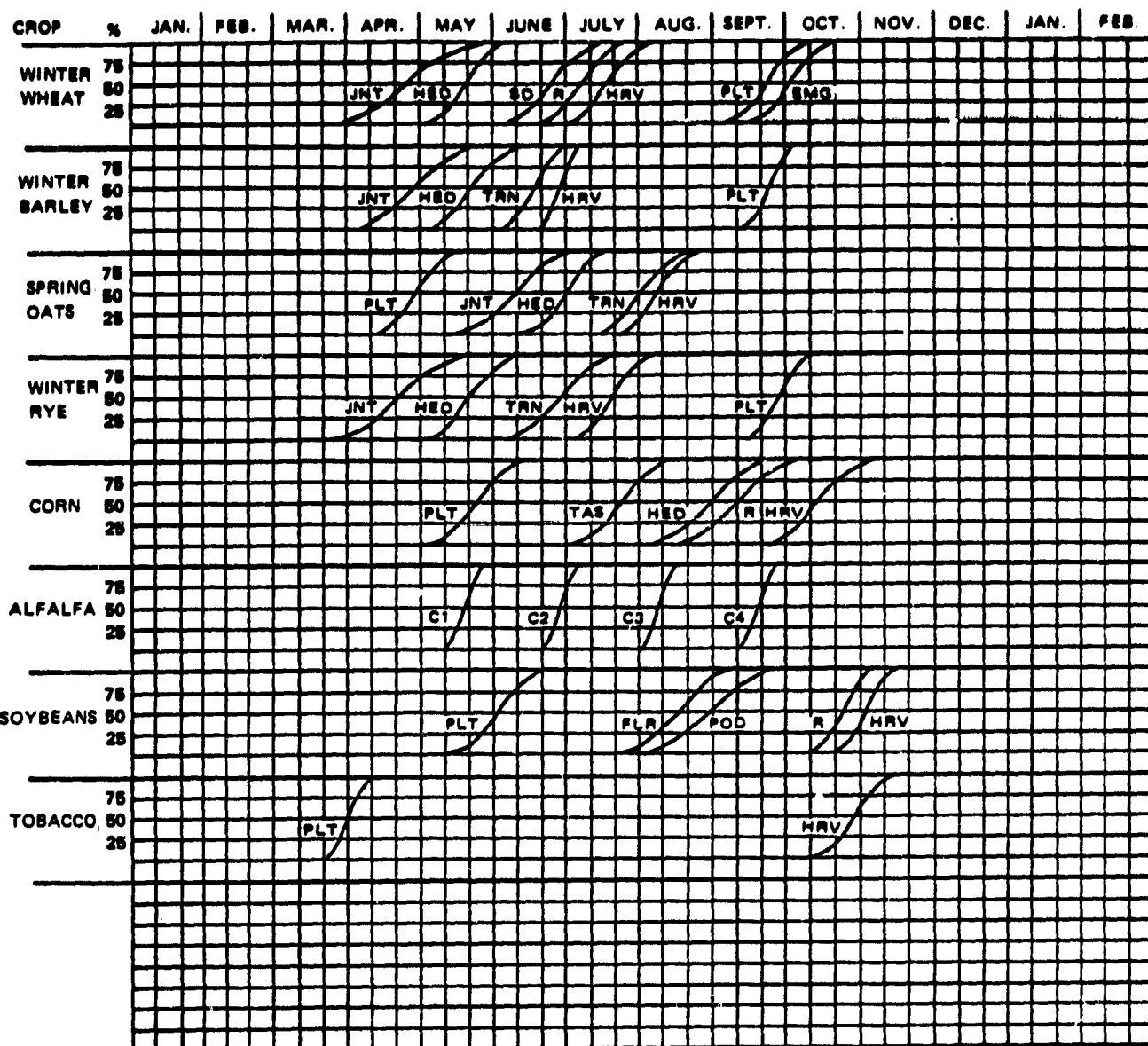


LEGEND

E	Under stage name, indicates rough estimate of date
EMG	Emergence
HED	Heading
HRV	Harvest
JNT	Jointing
PLT	Planting
R	Ripe
SD	Soft dough
TRN	Turning
TAS	Tasseling
C	Cut
FLR	Flowering
DUG	Dug
SOR	Squaring
SBL	Soft boll
BOL	Boiling

**ORIGINAL PAGE IS  
OF POOR QUALITY**

CROP CALENDARS PLOTTED 01/06/76  
PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR  
PENNSYLVANIA ESTIMATED AVERAGE CROP CALENDARS FROM USDA BULLETIN 283

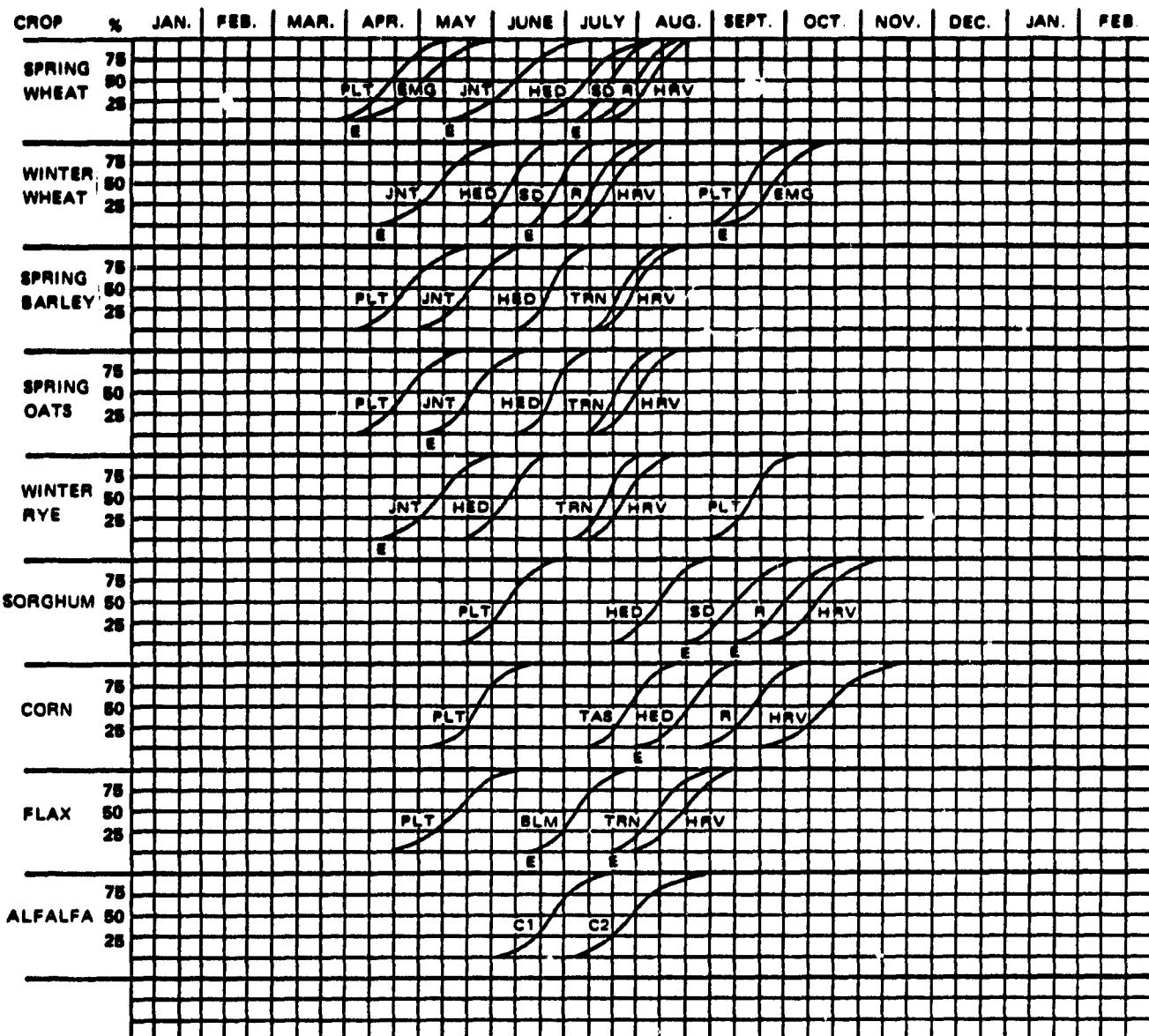


**LEGEND**

E	Under stage name, indicates rough estimate of date
EMG	Emergence
HED	Heading
HRV	Harvest
JNT	Jointing
PLT	Planting
R	Ripe
SD	Soft dough
TRN	Turning
TAS	Tasseling
C	Cut
FLR	Flowering

ORIGINAL PAGE IS  
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CROP CALENDARS PLOTTED 01/06/76  
PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR  
SOUTH DAKOTA CRD 10 AVERAGE CROP CALENDARS FROM 1960 TO 1969

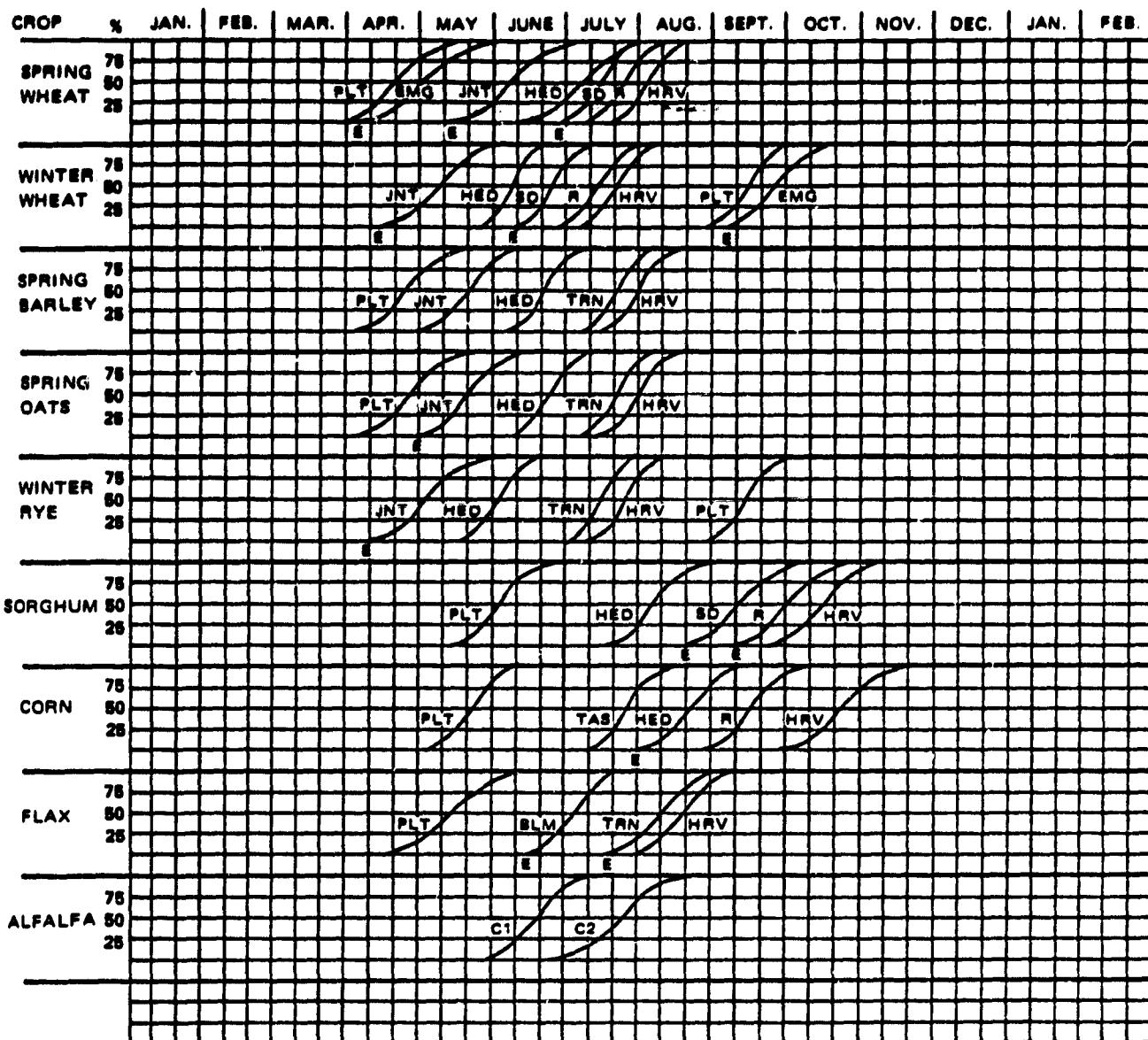


LEGEND

- E Under stage name, indicates rough estimate of date
- EMG Emergence
- HED Heading
- HRV Harvest
- JNT Jointing
- PLT Planting
- R Ripe
- SD Soft dough
- TRN Tasseling
- TAS Tasseling
- BLM Blooming
- C Cut

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CROP CALENDARS PLOTTED 01/06/78  
 PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR  
 SOUTH DAKOTA CRD 20 AVERAGE CROP CALENDARS FROM 1960 TO 1969

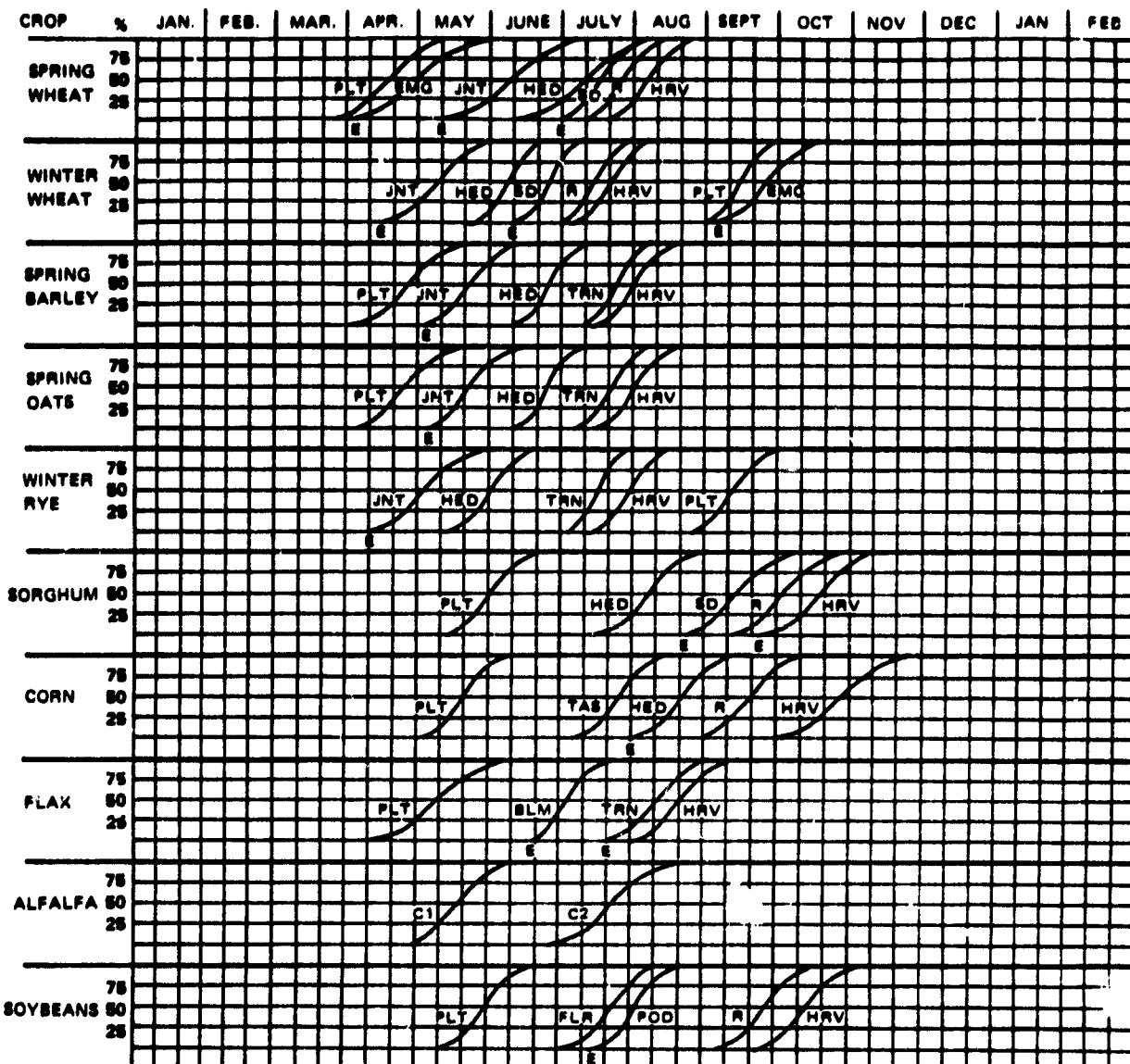


**LEGEND**

- E Under stage name, indicates rough estimate of date
- EMG Emergence
- HED Heading
- HRV Harvest
- JNT Jointing
- PLT Planting
- R Ripe
- SD Soft dough
- TRN Turning
- TAS Tasseling
- BLM Blooming
- C Cut

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CROP CALENDARS PLOTTED 01/06/76  
PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR  
SOUTH DAKOTA CRD 30 AVERAGE CROP CALENDARS FROM 1960 TO 1969

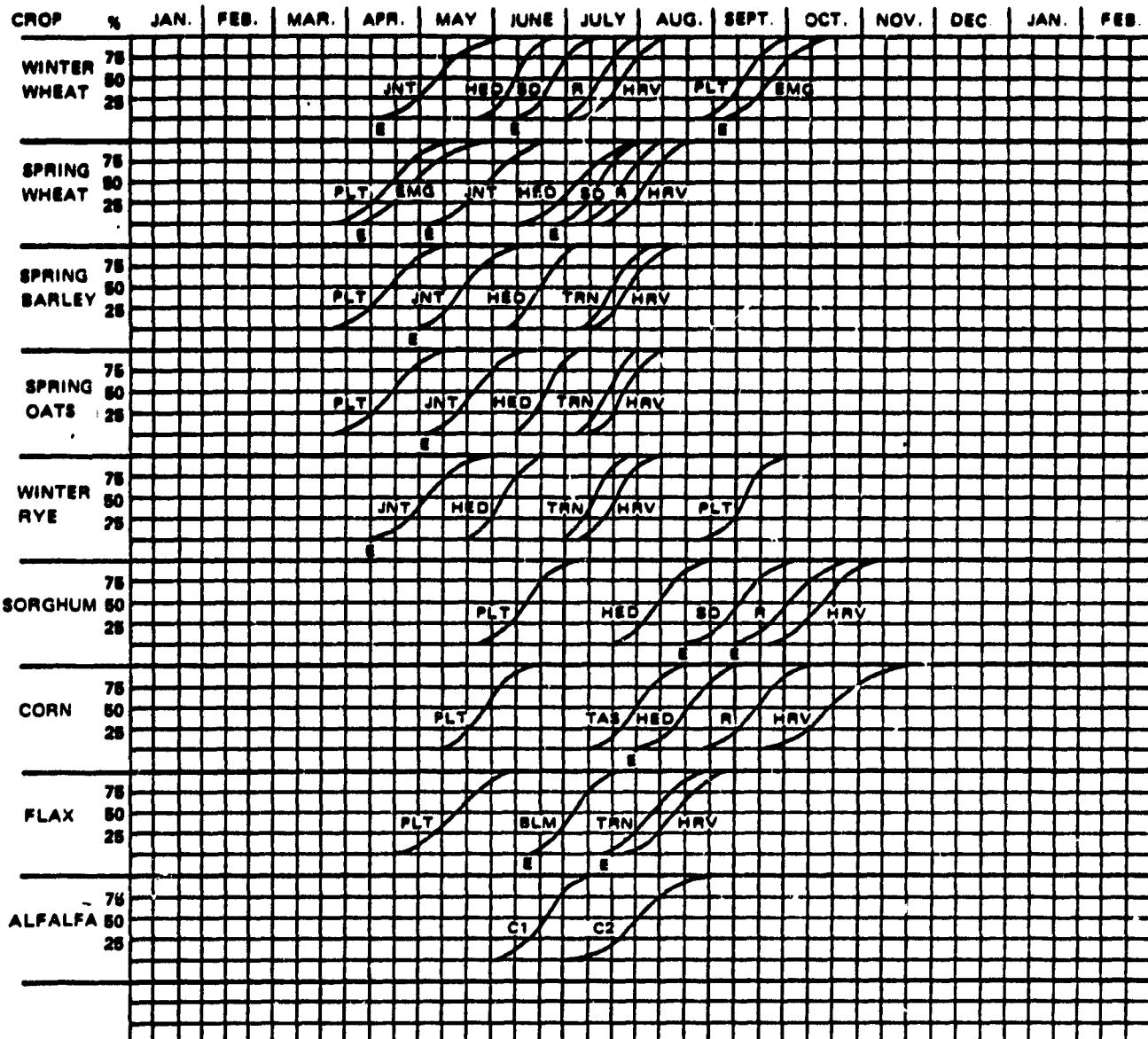


LEGEND

- E Under stage name, indicates rough estimate of date
- EMG Emergence
- HED Heading
- HRV Harvest
- JNT Jointing
- PLT Planting
- R Ripe
- SD Soft dough
- TRN Turning
- TAS Tasseling
- BLM Blooming
- C Cut
- FLR Flowering

**ORIGINAL PAGE IS  
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CROP CALENDARS PLOTTED 01/06/76  
PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR  
SOUTH DAKOTA CRD 40 AVERAGE CROP CALENDARS FROM 1960 TO 1969

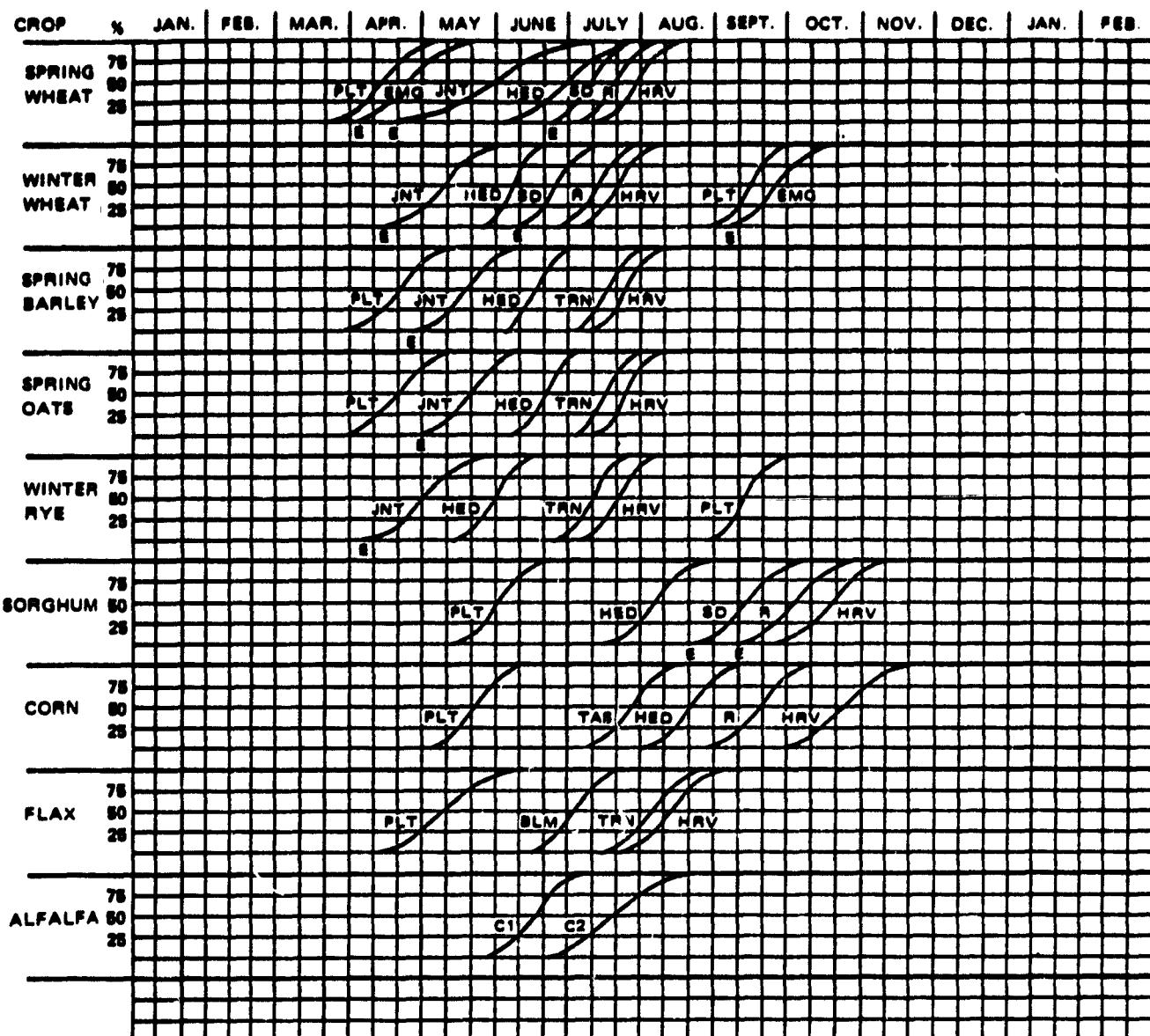


**LEGEND**

- E Under stage name, indicates rough estimate of date
- EMG Emergence
- HED Heading
- HRV Harvest
- JNT Jointing
- PLT Planting
- R Ripe
- SD Soft dough
- TRN Turning
- TAS Tasseling
- C Cut
- BLM Blooming

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CROP CALENDARS PLOTTED 01/06/76  
PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR  
SOUTH DAKOTA CRD 80 AVERAGE CROP CALENDARS FROM 1960 TO 1969

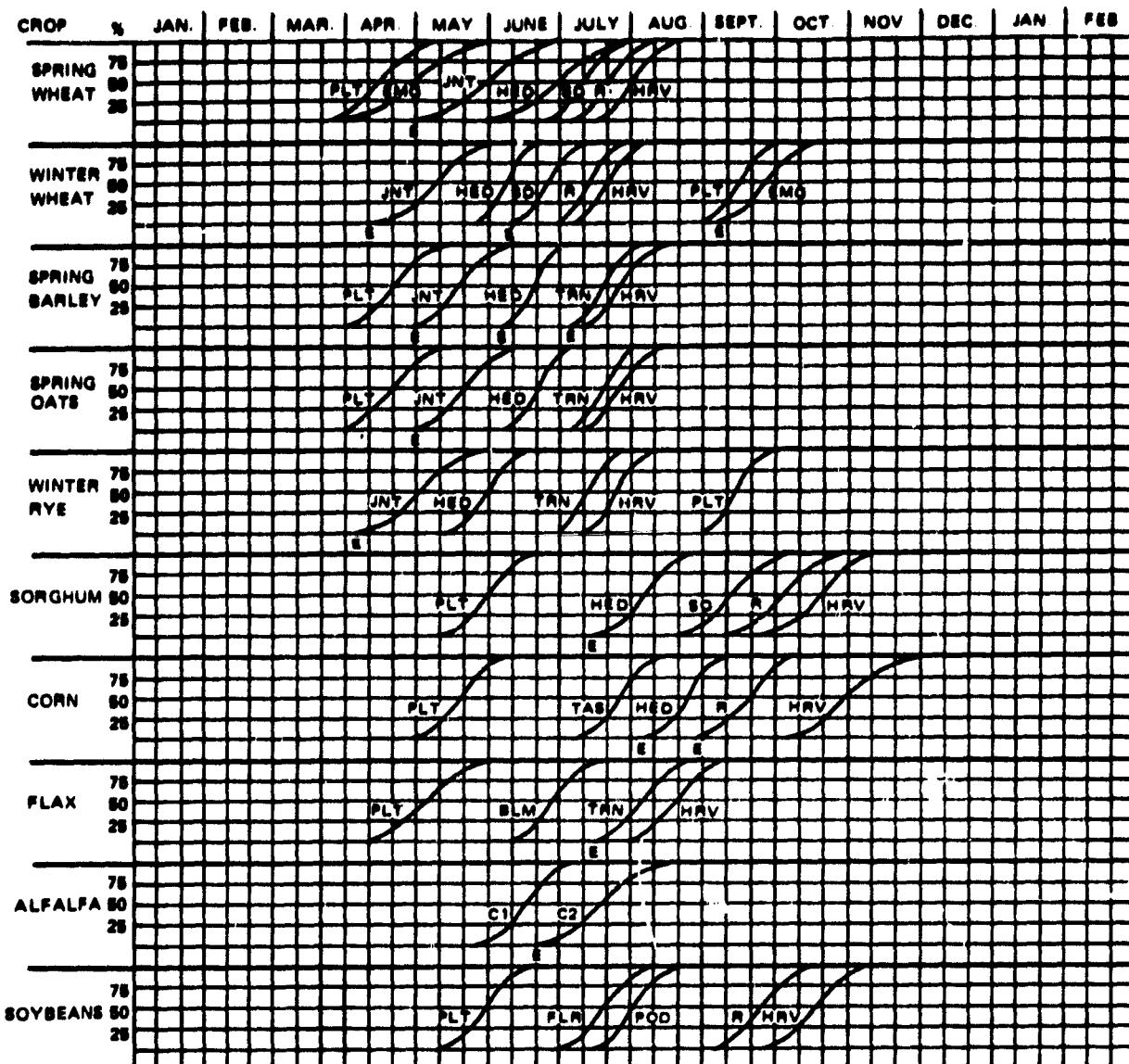


LEGEND

E	Under stage name, indicates rough estimate of date
EMG	Emergence
HED	Heading
HRV	Harvest
JNT	Jointing
PLT	Planting
R	Ripe
SD	Soft dough
TRN	Turning
TAS	Tasseling
BLM	Blooming
C	Cut

ORIGINAL PAGE IS  
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CROP CALENDARS PLOTTED 01/06/78  
PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR  
SOUTH DAKOTA CRD 60 AVERAGE CROP CALENDARS FROM 1960 TO 1969

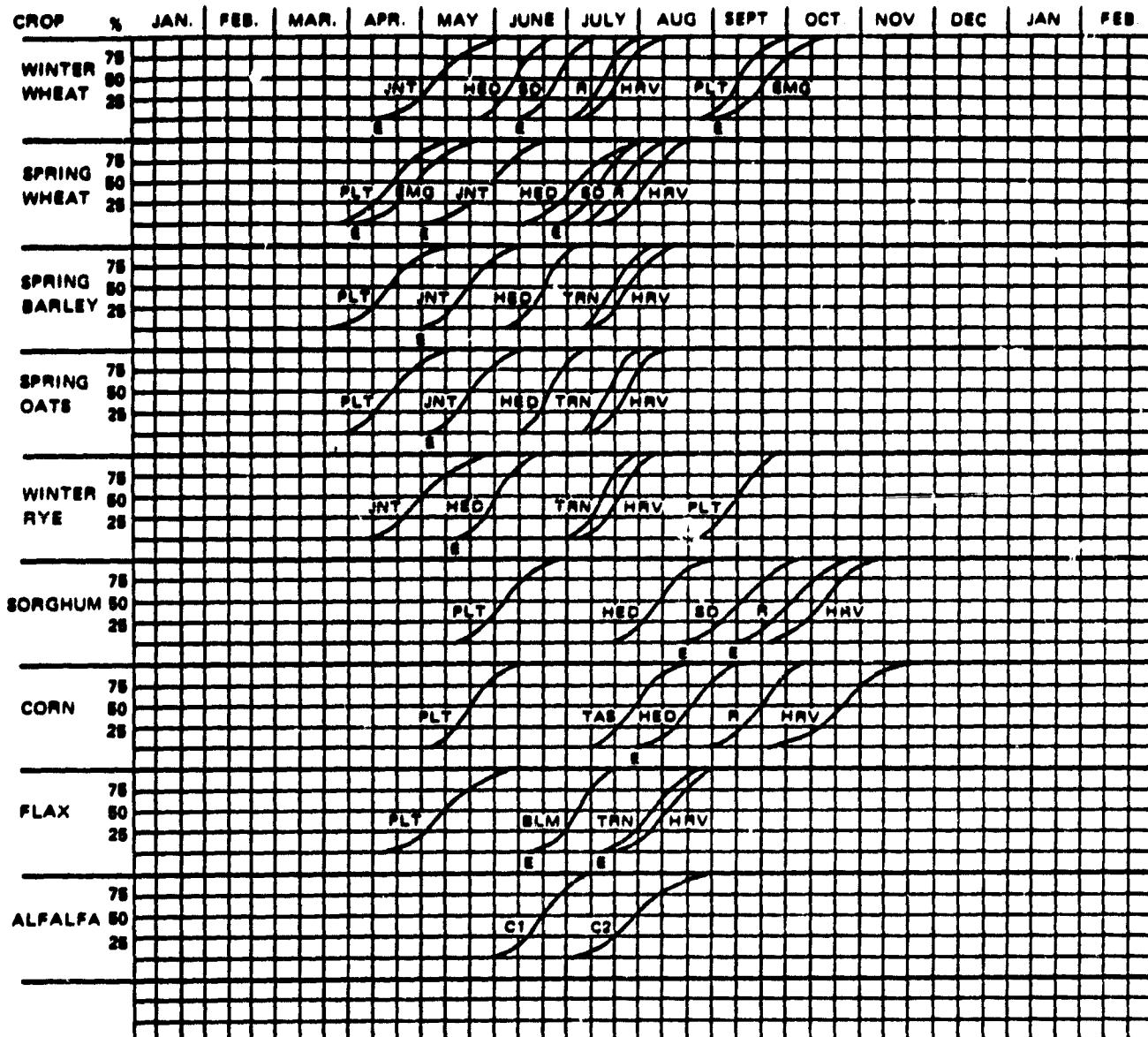


LEGEND

- E Under stage name, indicates rough estimate of date
- EMG Emergence
- HED Heading
- HRV Harvest
- JNT Jointing
- PLT Planting
- R Ripe
- SD Soft dough
- TRN Turning
- TAS Tasseling
- C Cut
- FLR Flowering
- BLM Blooming

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CROP CALENDARS PLOTTED 01/06/78  
PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR  
SOUTH DAKOTA CRD 70 AVERAGE CROP CALENDARS FROM 1960 TO 1969

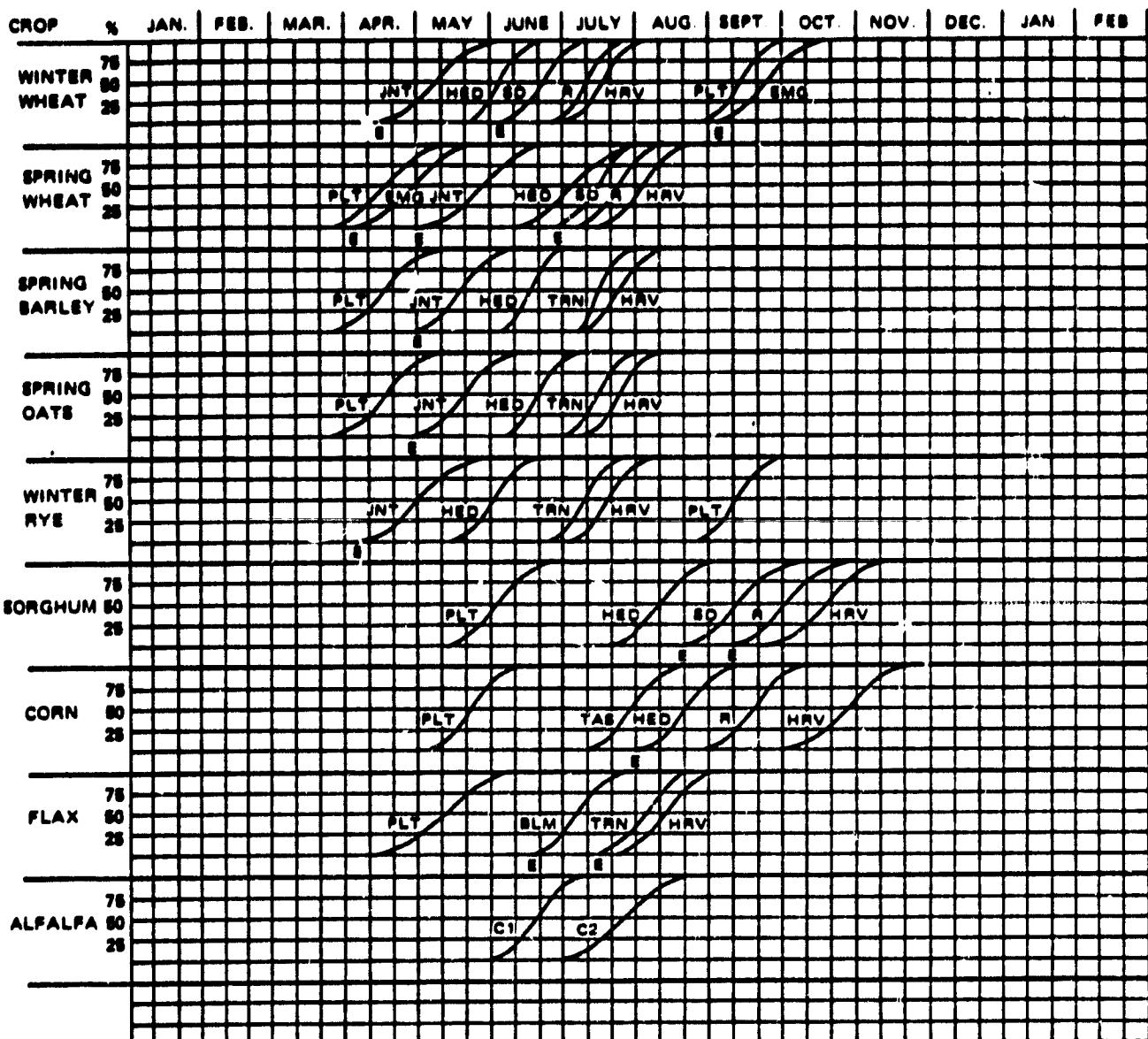


LEGEND

E	Under stage name, indicates rough estimate of date
EMG	Emergence
HED	Heading
HRV	Harvest
JNT	Jointing
PLT	Planting
R	Ripe
SD	Soft dough
TRN	Turning
TAS	Tasseling
BLM	Blooming
C	Cut

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CROP CALENDARS PLOTTED 01/06/78  
PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR  
SOUTH DAKOTA CRO 80 AVERAGE CROP CALENDARS FROM 1960 TO 1969

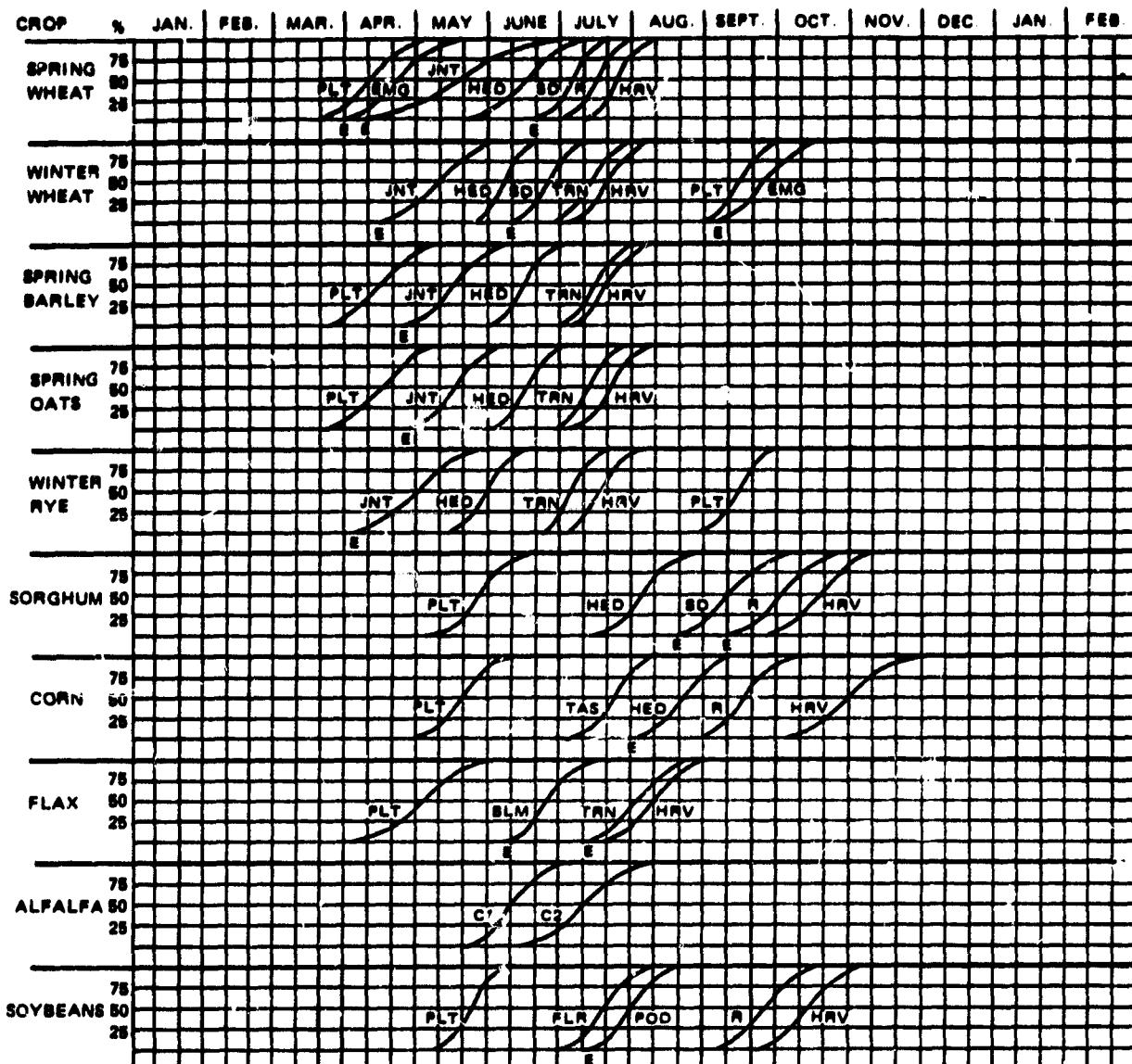


LEGEND

E	Under stage name, indicates rough estimate of date
EMG	Emergence
HED	Heading
HRV	Harvest
JNT	Jointing
PLT	Planting
R	Ripe
SD	Soft dough
TRN	Turning
TAS	Tasseling
BLM	Blooming
C	Cut

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CROP CALENDARS PLOTTED 01/06/76  
PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR  
SOUTH DAKOTA CRD 90 AVERAGE CROP CALENDARS FROM 1960 TO 1969

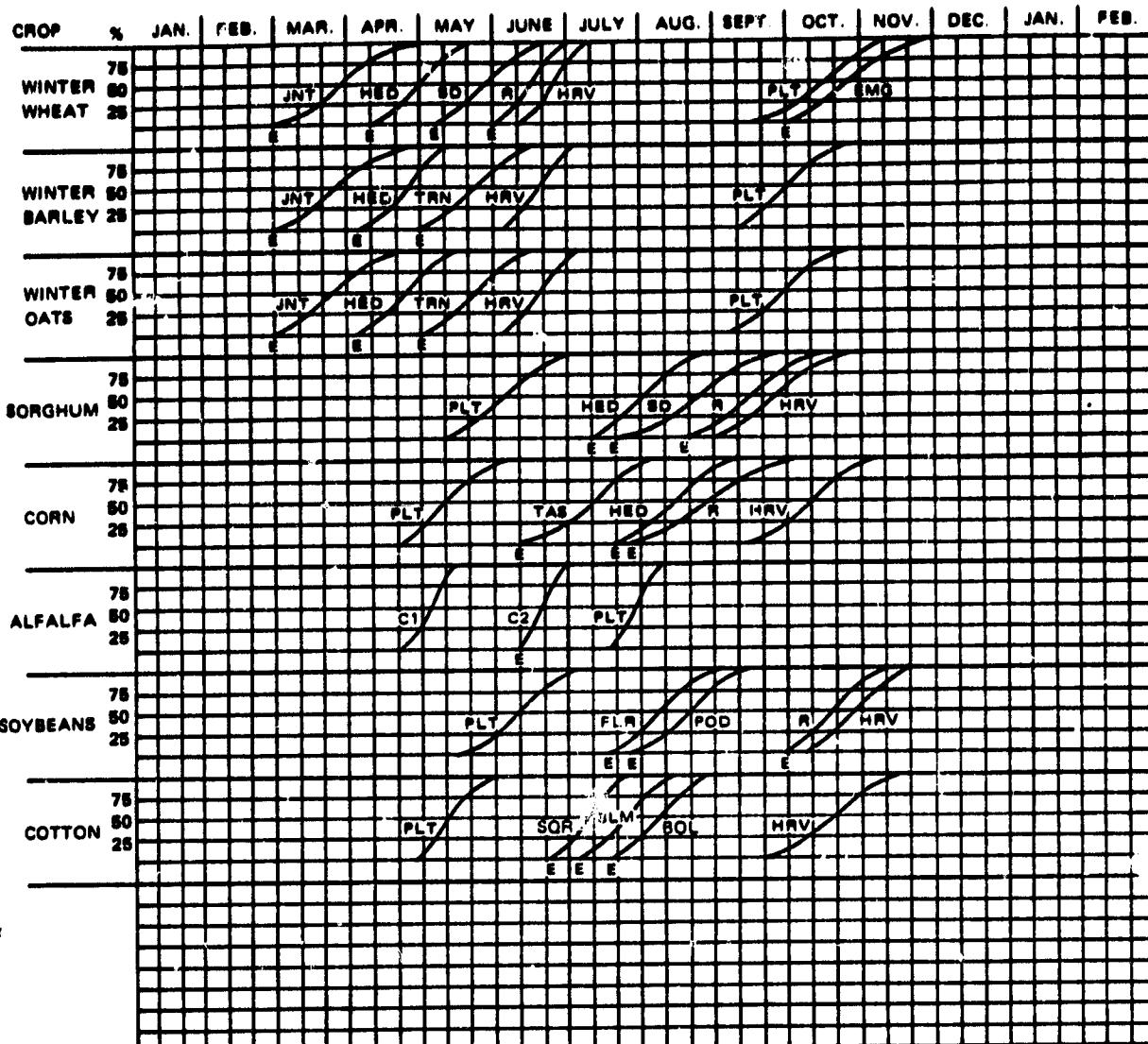


LEGEND

- E Under stage name, indicates rough estimate of date
- EMG Emergence
- HED Heading
- HRV Harvest
- JNT Jointing
- PLT Planting
- R Ripe
- SD Soft dough
- TRN Turning
- TAS Tasseling
- BLM Blooming
- C Cut
- FLR Flowering

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CROP CALENDARS PLOTTED 01/06/78  
 PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR  
 TENNESSEE CRD 2 ESTIMATED AVERAGE CROP CALENDARS FROM USDA BULLETIN 283

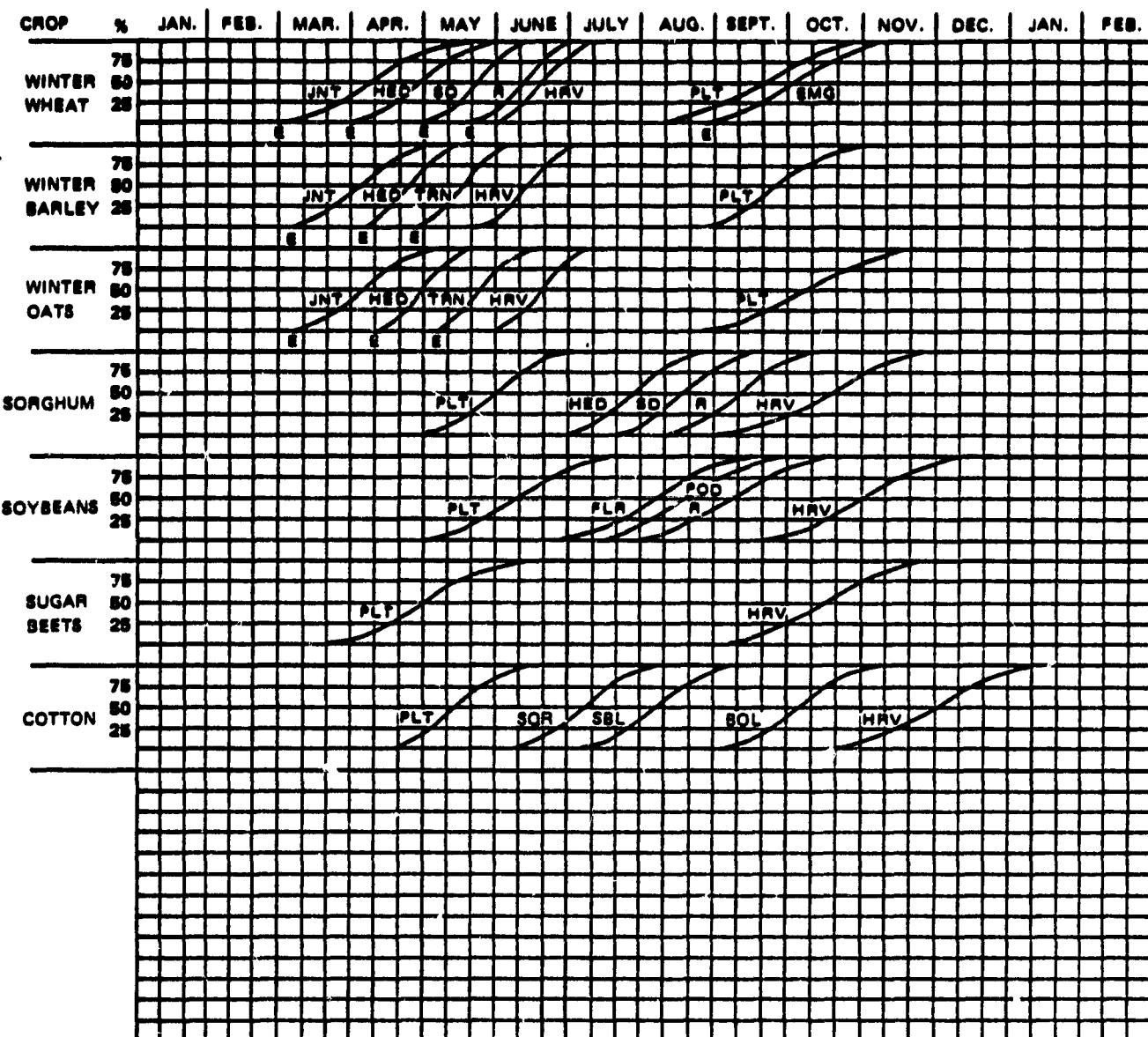


LEGEND

E	Under stage name, indicates rough estimate of date
EMG	Emergence
HED	Heading
HRV	Harvest
JNT	Jointing
PLT	Planting
R	Ripe
SD	Soft dough
TRN	Turning
TAS	Tasseling
C	Cut
FLR	Flowering
SQR	Squaring
BLM	Blooming
BOLL	Bolling

**ORIGINAL PAGE IS  
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CROP CALENDARS PLOTTED 01/06/78  
PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR  
TEXAS CRD 1 AVERAGE CROP CALENDARS FOR 1964-66 AND 1971-73

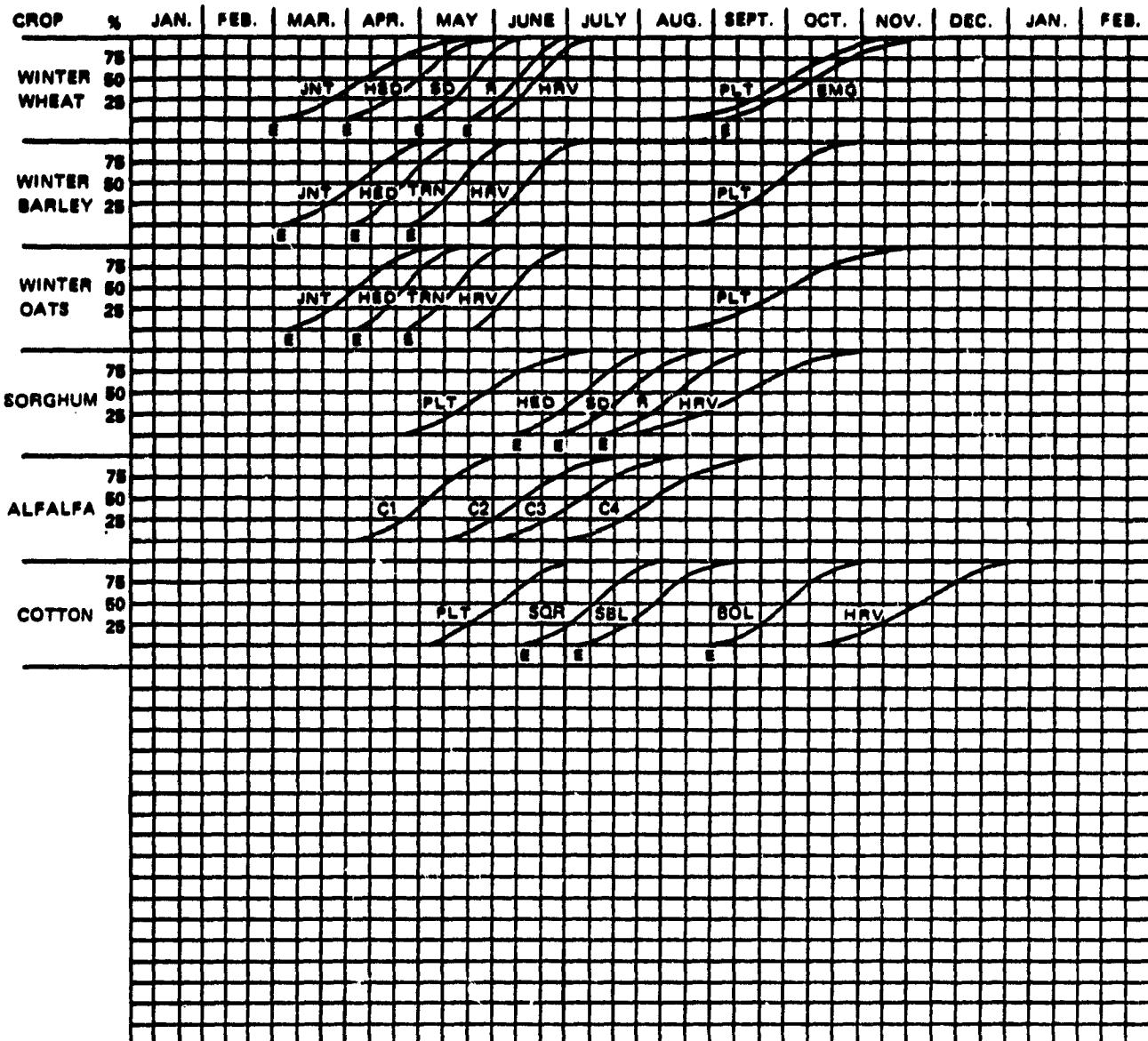


**LEGEND**

E	Under stage name, indicates rough estimate of date
EMG	Emergence
HED	Heading
HRV	Harvest
JNT	Jointing
PLT	Planting
R	Ripe
SD	Soft dough
TRN	Turning
SQR	Squaring
SBL	Soft ball
BOL	Bolling

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**CROP CALENDARS PLOTTED 01/06/76**  
**PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR**  
**TEXAS CRD 2 AVERAGE CROP CALENDARS FOR 1964-65 AND 1971-73**

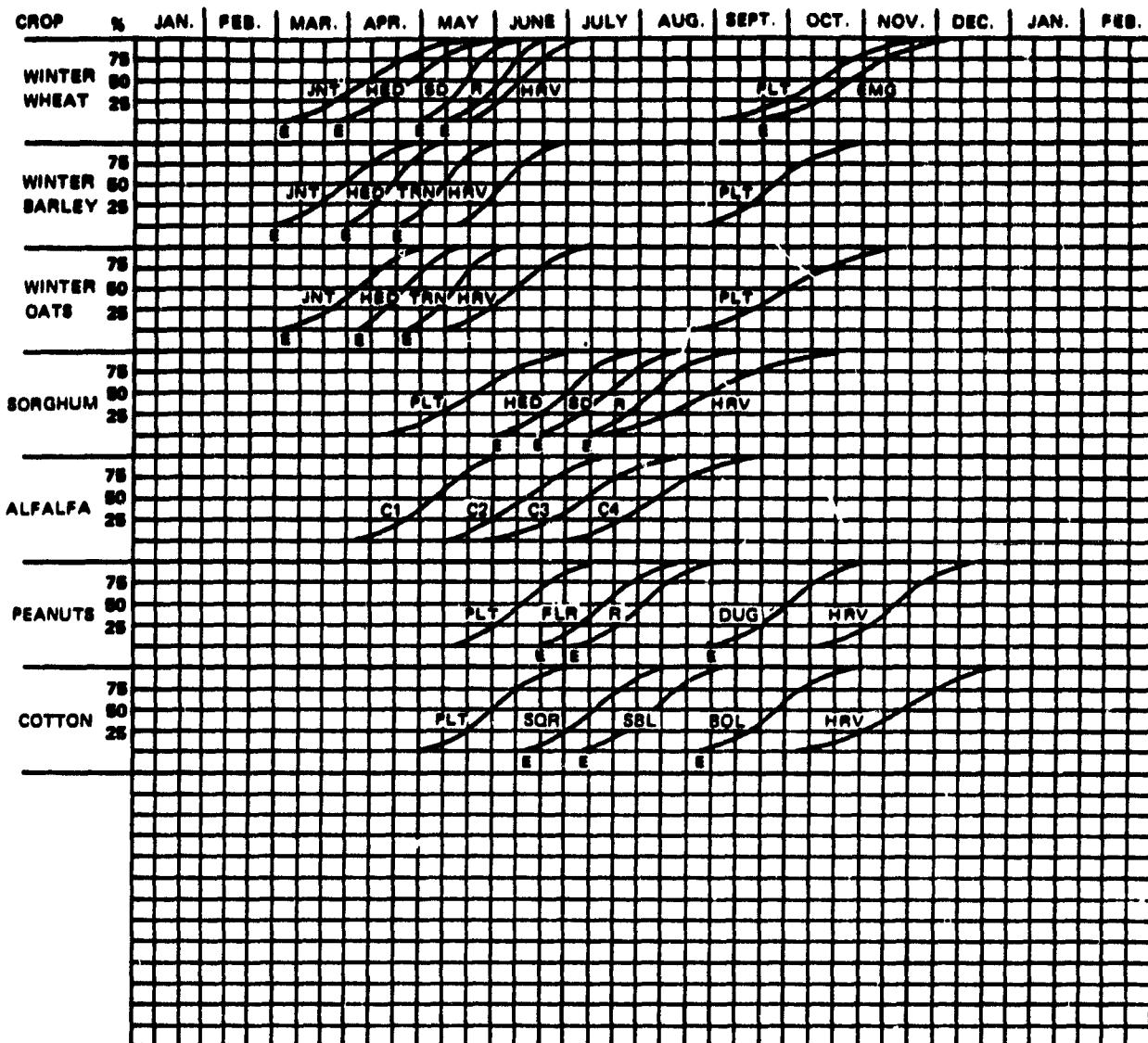


## **LEGEND**

<b>E</b>	Under stage name, indicates rough estimate of date
<b>EMG</b>	Emergence
<b>HED</b>	Heading
<b>HRV</b>	Harvest
<b>JNT</b>	Jointing
<b>PLT</b>	Planting
<b>R</b>	Ripe
<b>SD</b>	Soft dough
<b>TRN</b>	Turning
<b>C</b>	Cut
<b>SQR</b>	Squaring
<b>SBL</b>	Soft boil
<b>BOL</b>	Boiling

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CROP CALENDARS PLOTTED 01/06/78  
PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR  
TEXAS CRD 3 AVERAGE CROP CALENDARS FOR 1964-66 AND 1971-73

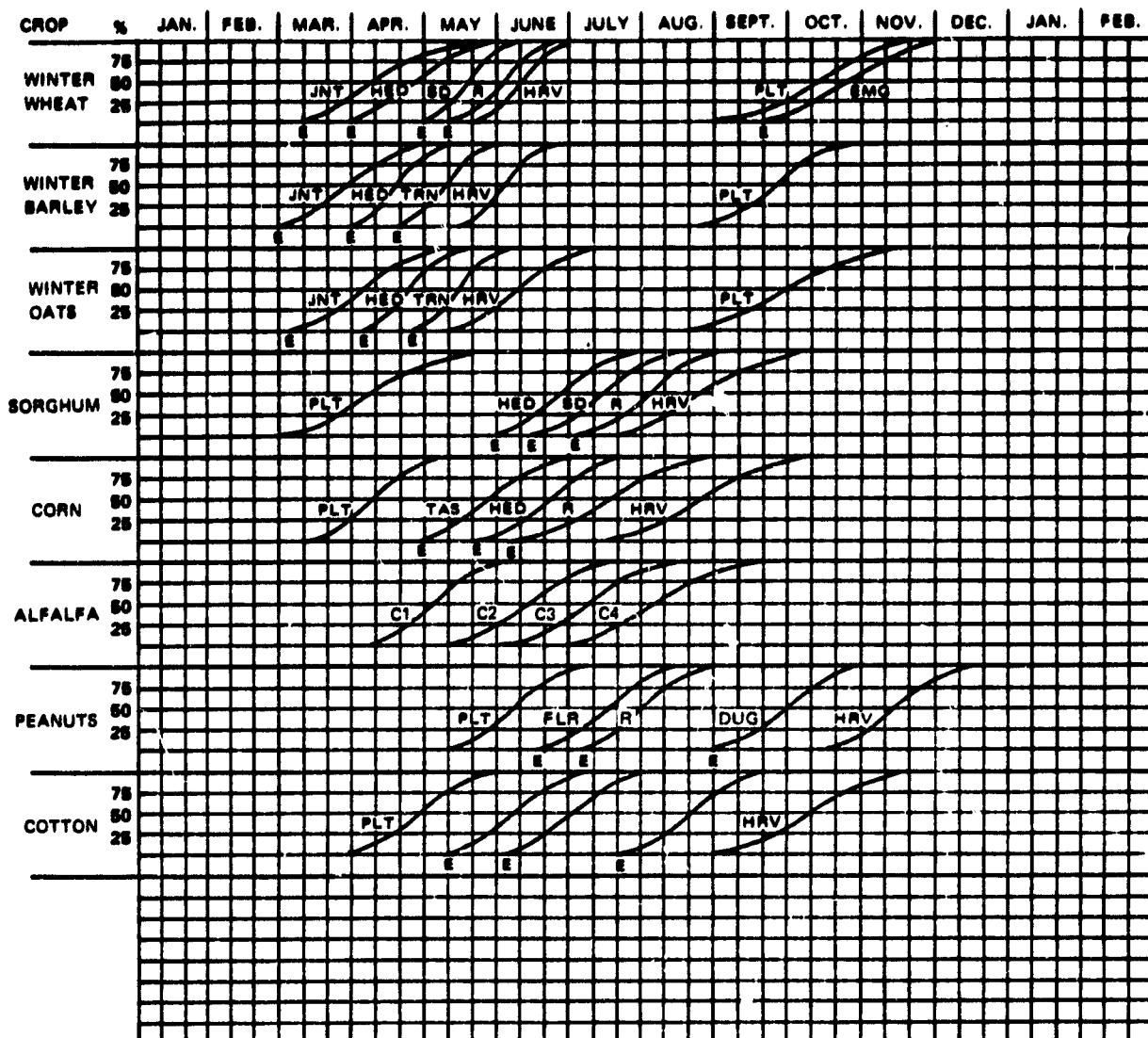


LEGEND

E	Under stage name, indicates rough estimate of date
EMG	Emergence
HED	Heading
HRV	Harvest
JNT	Jointing
PLT	Planting
R	Ripe
SD	Soft dough
TRN	Turning
C	CUT
FLR	Flowering
SQR	Squaring
SBL	Soft boll
BOL	Boiling

ORIGINAL PAGE IS  
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**CROP CALENDARS PLUTED 01/06/76**  
**PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR**  
**TEXAS CRD 4 AVERAGE CROP CALENDARS FOR 1964-65 AND 1971-73**

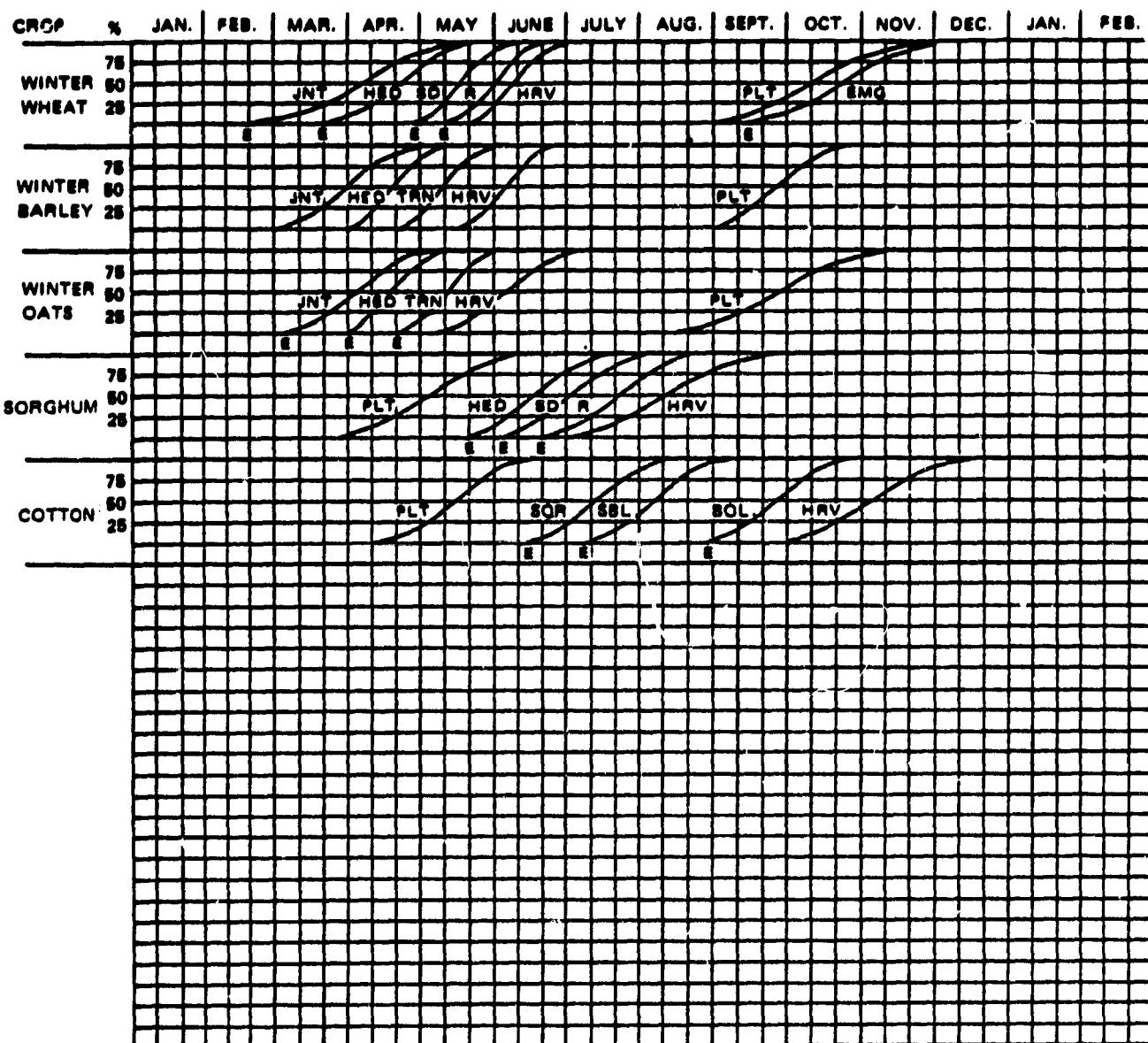


## **LEGEND**

LEGEND	
E	Under stage name, indicates rough estimate of date
EMG	Emergence
HED	Heading
HRV	Harvest
JNT	Jointing
PLT	Planting
R	Ripe
SD	Soft dough
TRN	Turning
TAS	Tasseling
C	Cut
FLR	Flowering
SQR	Squaring
SBL	Soft boll
BOL	Bolling

**ORIGINAL PAGE IS  
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**CROP CALENDARS PLOTTED 01/06/76**  
**PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR**  
**TEXAS CRD 7 AVERAGE CROP CALENDARS FOR 1964-65 AND 1971-73**

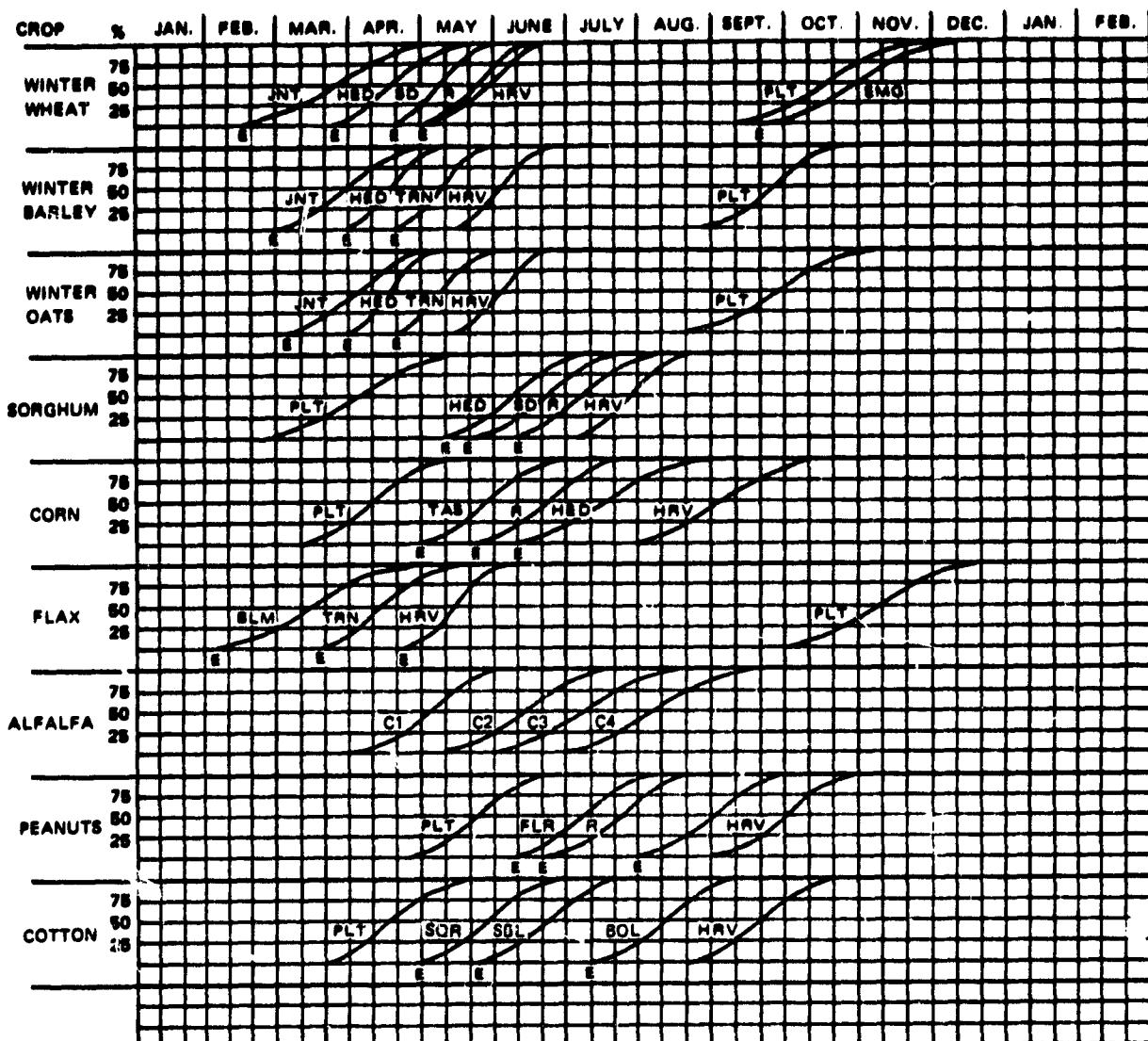


## **LEGEND**

<b>E</b>	Under stage name, indicates rough estimate of date
<b>EMG</b>	Emergence
<b>HED</b>	Heading
<b>HRV</b>	Harvest
<b>JNT</b>	Jointing
<b>PLT</b>	Planting
<b>R</b>	Ripe
<b>SD</b>	Soft dough
<b>TRN</b>	Turning
<b>SQR</b>	Squaring
<b>SBL</b>	Soft boiling
<b>BOL</b>	Boiling

**ORIGINAL PAGE IS  
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CROP CALENDARS PLOTTED 01/06/78  
PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR  
TEXAS CRD 8 AVERAGE CROP CALENDARS FOR 1964-65 AND 1971-73

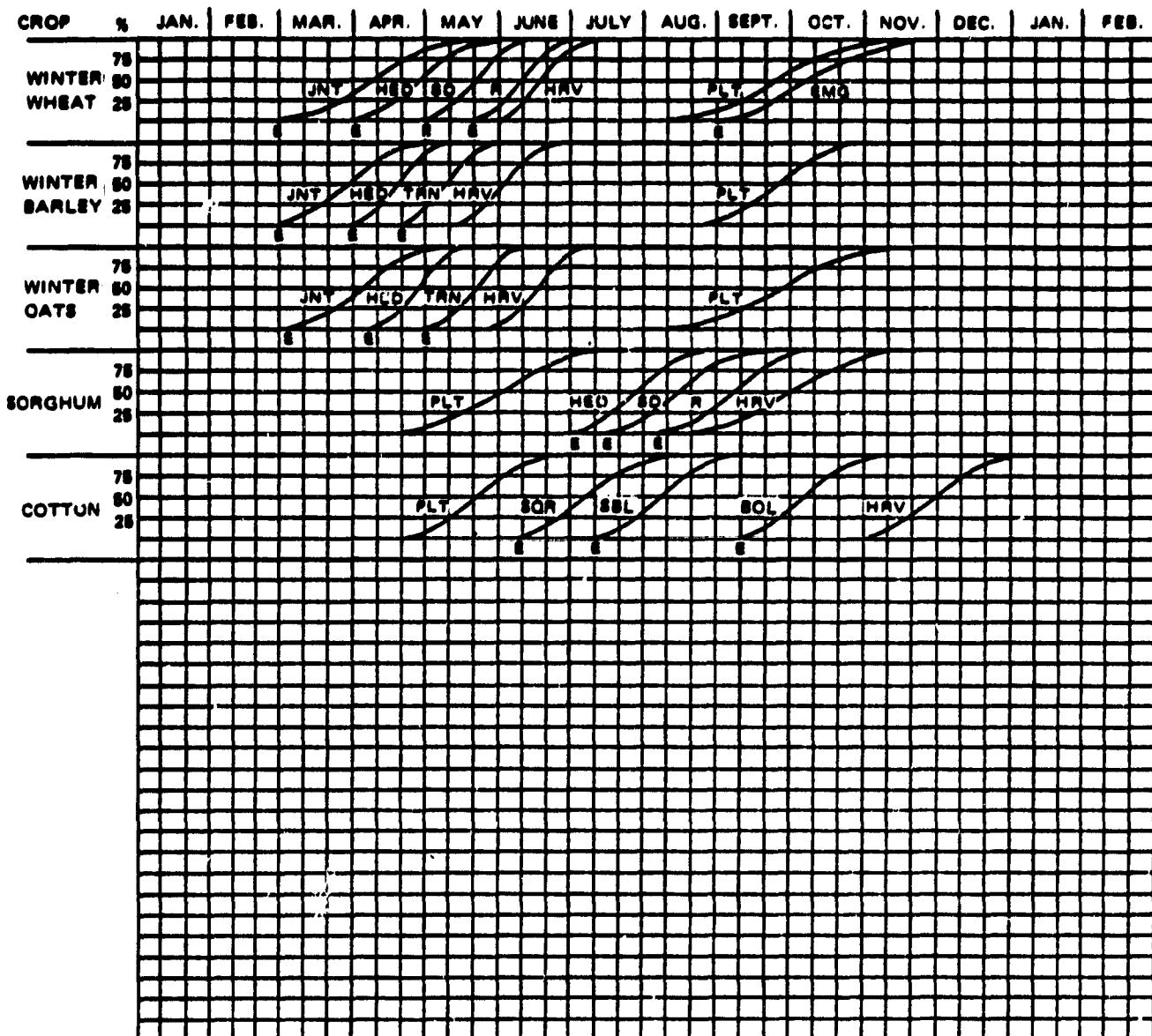


**LEGEND**

E	Under stage name, indicates rough estimate of date
EMG	Emergence
HED	Heading
HRV	Harvest
JNT	Jointing
PLT	Planting
R	Ripe
SD	Soft dough
TRN	Turning
TAS	Tasseling
C	Cut
BLM	Blooming
C	Cut
FLR	Flowering
SQR	Squaring
SBL	Soft boll
BOL	Boiling

ORIGINAL PAGE IS  
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CROP CALENDARS PLOTTED 01/06/78  
PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR  
TEXAS CRD 11 AVERAGE CROP CALENDARS FOR 1964-65 AND 1971-73

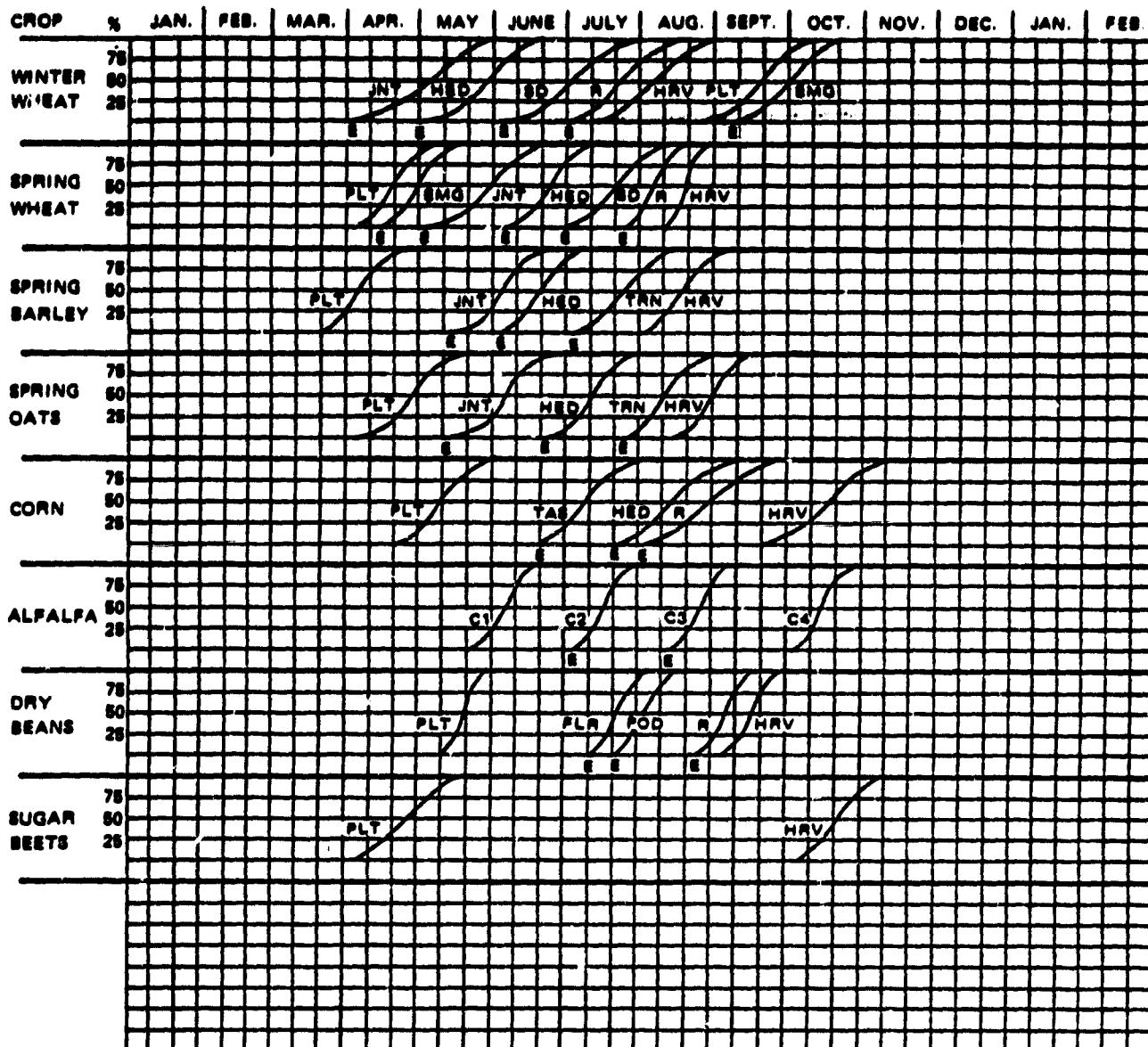


LEGEND

E	Under stage name, indicates rough estimate of date
EMG	Emergence
HED	Heading
HRV	Harvest
JNT	Jointing
PLT	Planting
R	Ripe
SD	Soft dough
TRN	Turning
SQR	Squaring
SBL	Soft bolling
BOL	Bolling

**ORIGINAL PAGE IS  
OF POOR QUALITY**

CROP CALENDARS PLOTTED 01/08/76  
PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR  
UTAH CRO 1 ESTIMATED AVERAGE CROP CALENDARS FROM USDA BULLETIN 283

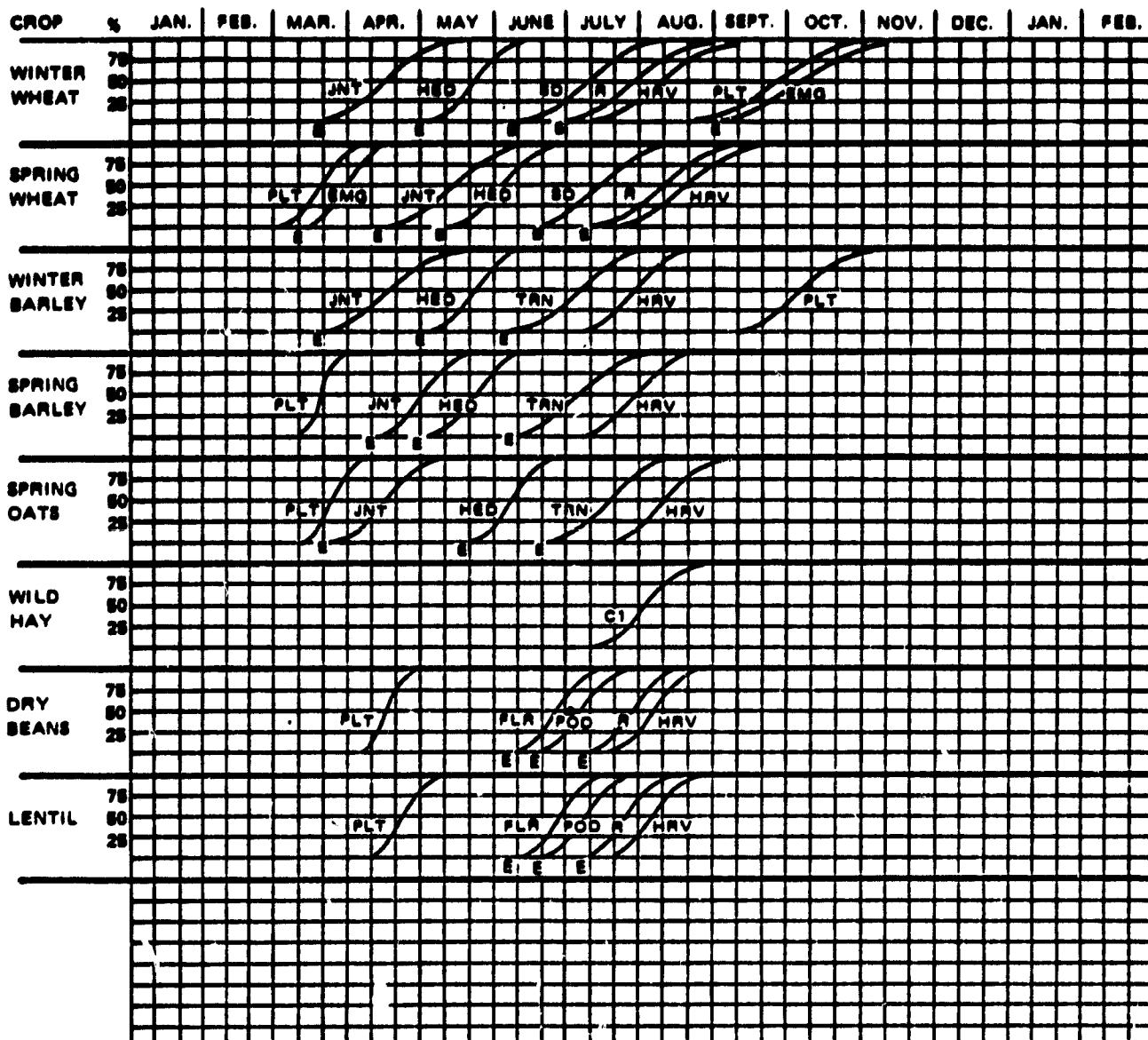


**LEGEND**

E	Under stage name, indicates rough estimate of date
EMG	Emergence
HED	Heading
HRV	Harvest
JNT	Jointing
PLT	Planting
R	Ripe
SD	Soft dough
TRN	Turning
TAS	Tasseling
C	Cut
FLR	Flowering

ORIGINAL PAGE IS  
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CROP CALENDARS PLCTTEU 01/06/78  
PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR  
WASHINGTON CRD 3 ESTIMATED AVERAGE CROP CALENDARS FROM USDA BULLETIN 283

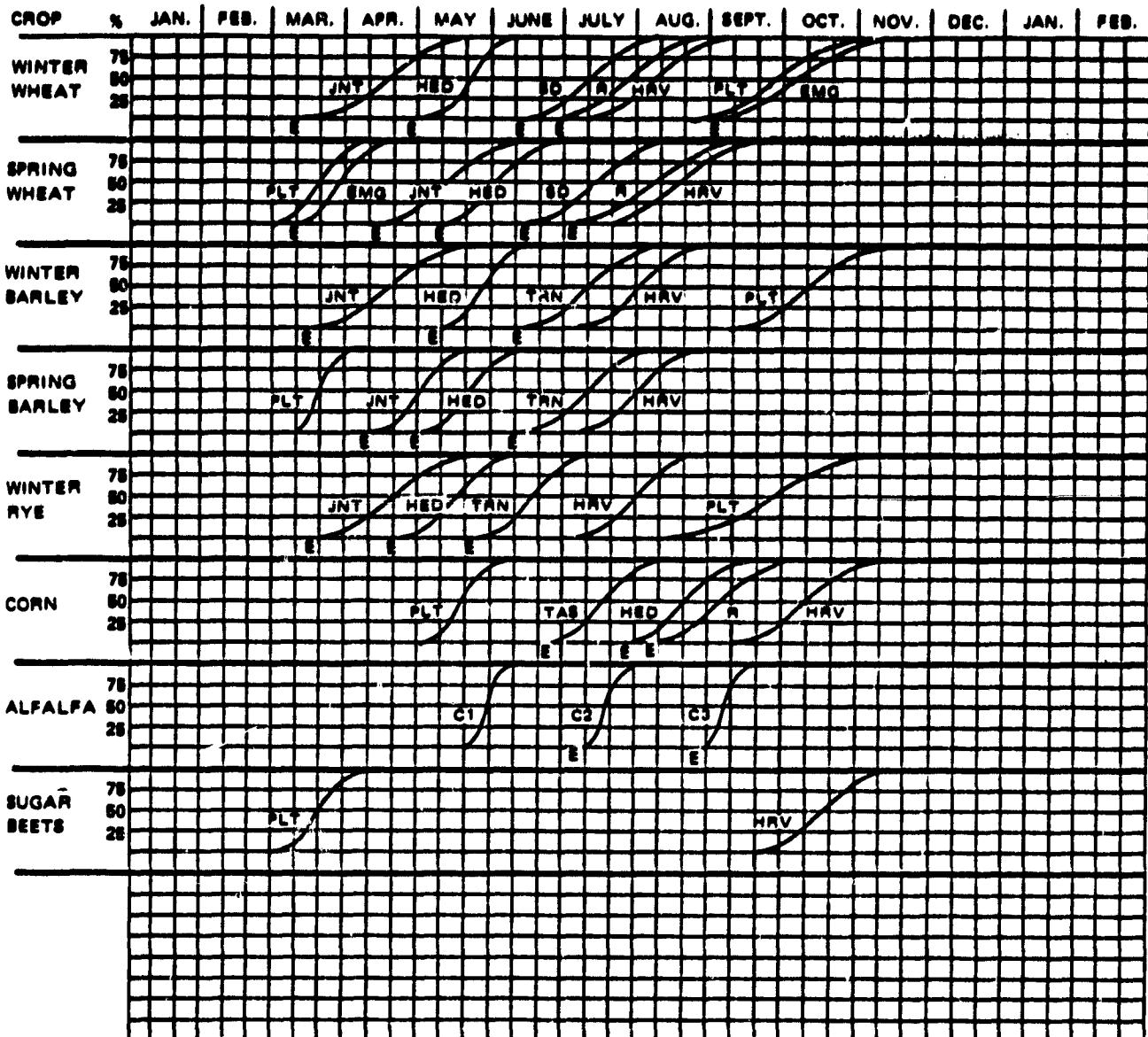


LEGEND

E	Under stage name, indicates rough estimate of date
EMG	Emergence
HED	Heading
HRV	Harvest
JNT	Jointing
PLT	Planting
R	Ripe
SD	Soft dough
TRN	Turning

ORIGINAL PAGE IS  
OF POOR QUALITY

CROP CALENDARS PLOTTED 01/06/78  
PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR  
WASHINGTON CROPS ESTIMATED AVERAGE CROP CALENDARS FROM USDA BULLETIN 283

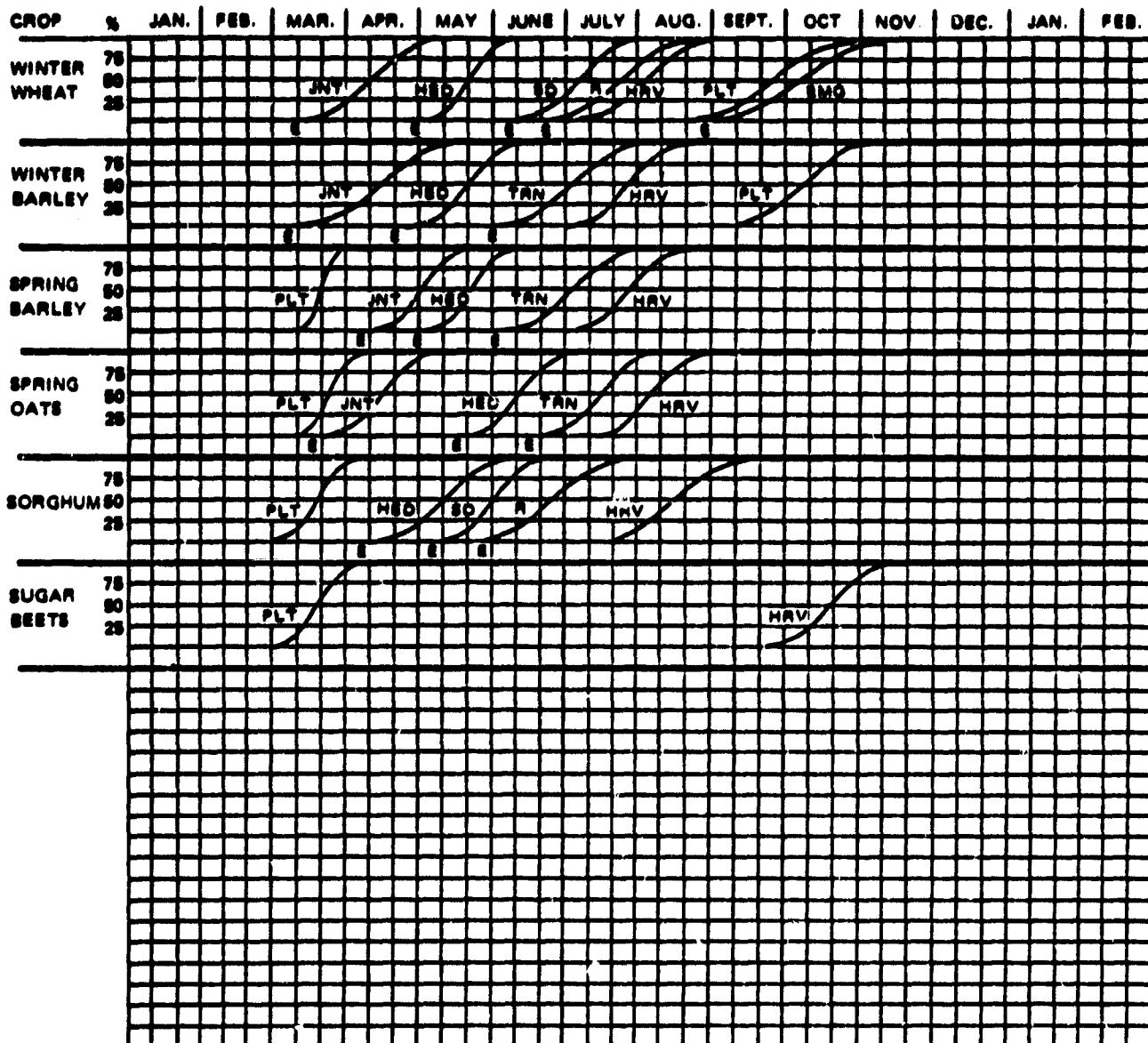


LEGEND

E	Under stage name, indicates rough estimate of date
EMG	Emergence
HED	Heading
HRV	Harvest
JNT	Jointing
PLT	Planting
R	Ripe
SD	Soft dough
TRN	Turning
TAB	Tasseling

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CROP CALENDARS PLOTTED 01/06/76  
PERCENT OF AREA IN DEVELOPMENT STAGE BY SPECIFIED DATE FOR  
WASHINGTON CRD 8 ESTIMATED AVERAGE CROP CALENDARS FROM USDA BULLETIN 383



LEGEND

- E Under stage name, indicates rough estimate of date
- EMG Emergence
- HED Heading
- HRV Harvest
- JNT Jointing
- PLT Planting
- R Ripe
- SD Soft dough
- TRN Turning

**APPENDIX B**

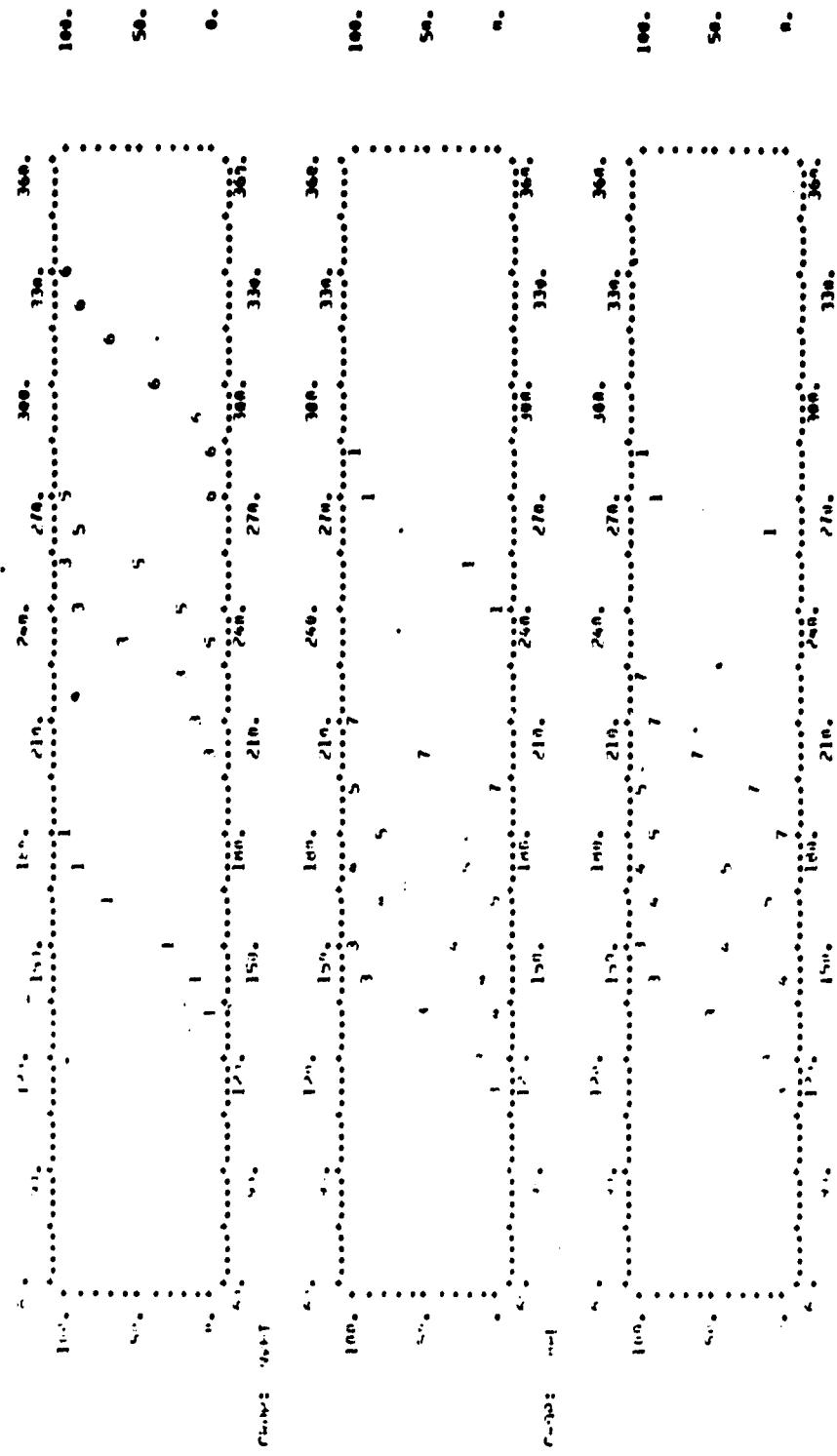
**SAMPLES OF CROP CALENDARS FOR COLORADO, IOWA, KANSAS, MINNESOTA, MONTANA,  
NEBRASKA, NORTH DAKOTA, SOUTH DAKOTA, AND TEXAS**

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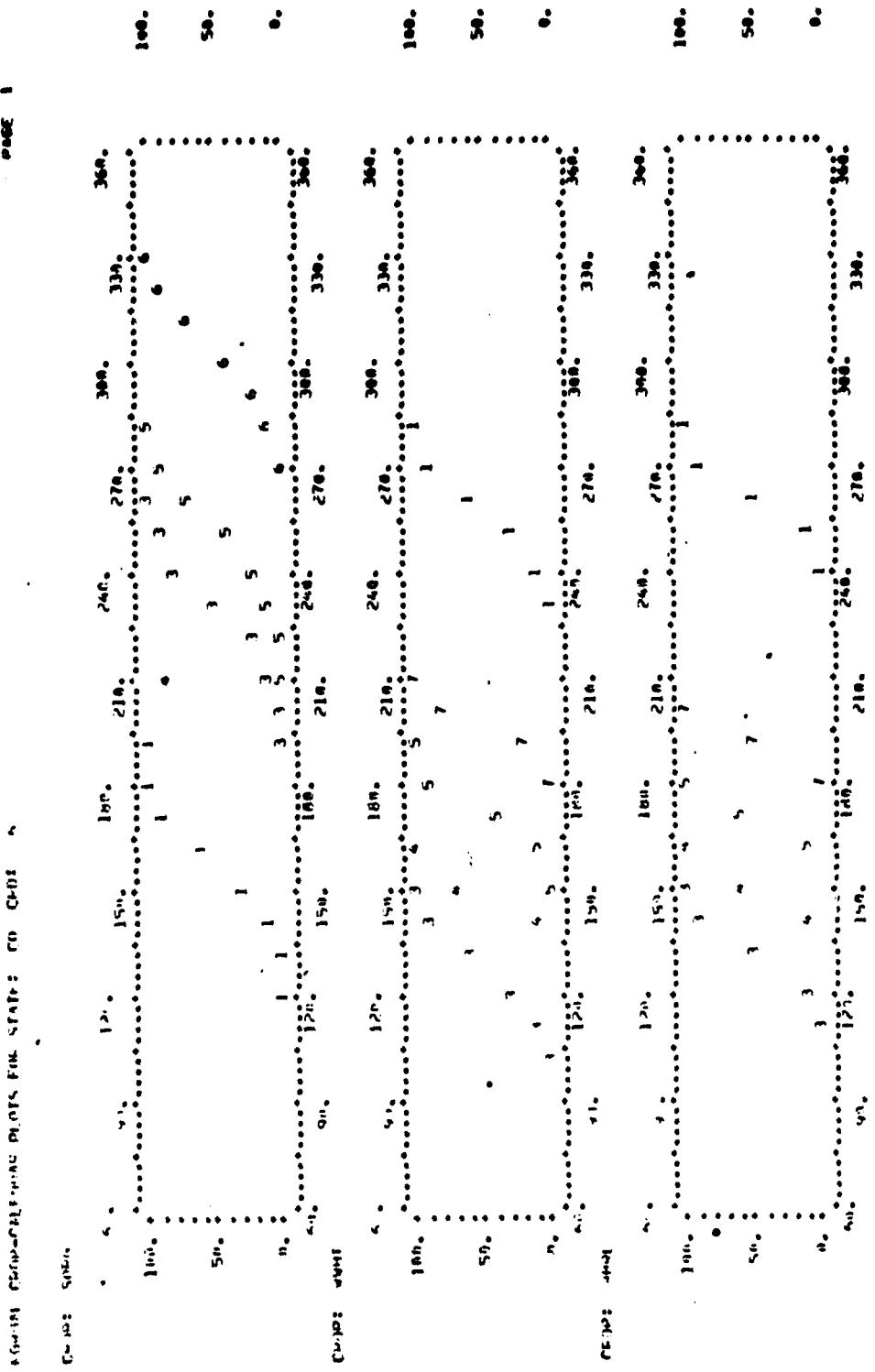
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רְמִזְרָקָה וְעַמְלָקָה בְּבֵית־יְהוָה כְּנֶסֶת־יְהוָה

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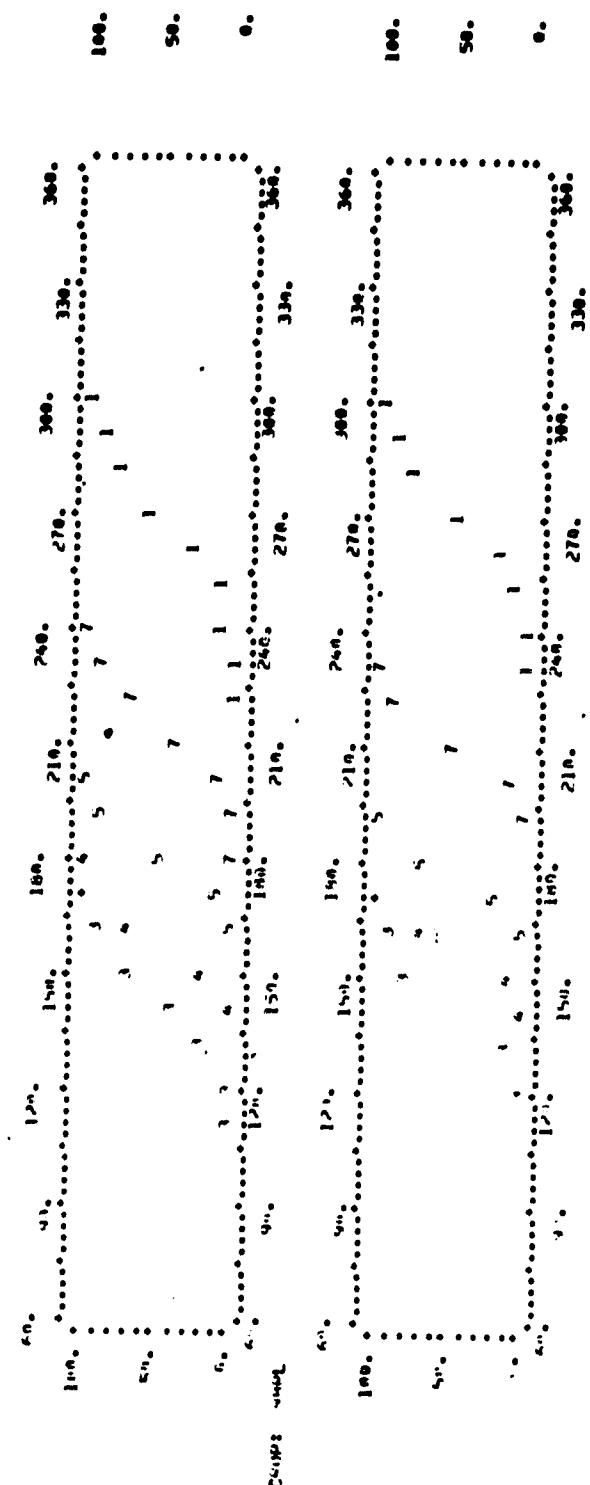
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NAME, ADDRESS, CITY, STATE, ZIP CODE: CO. C.R.:

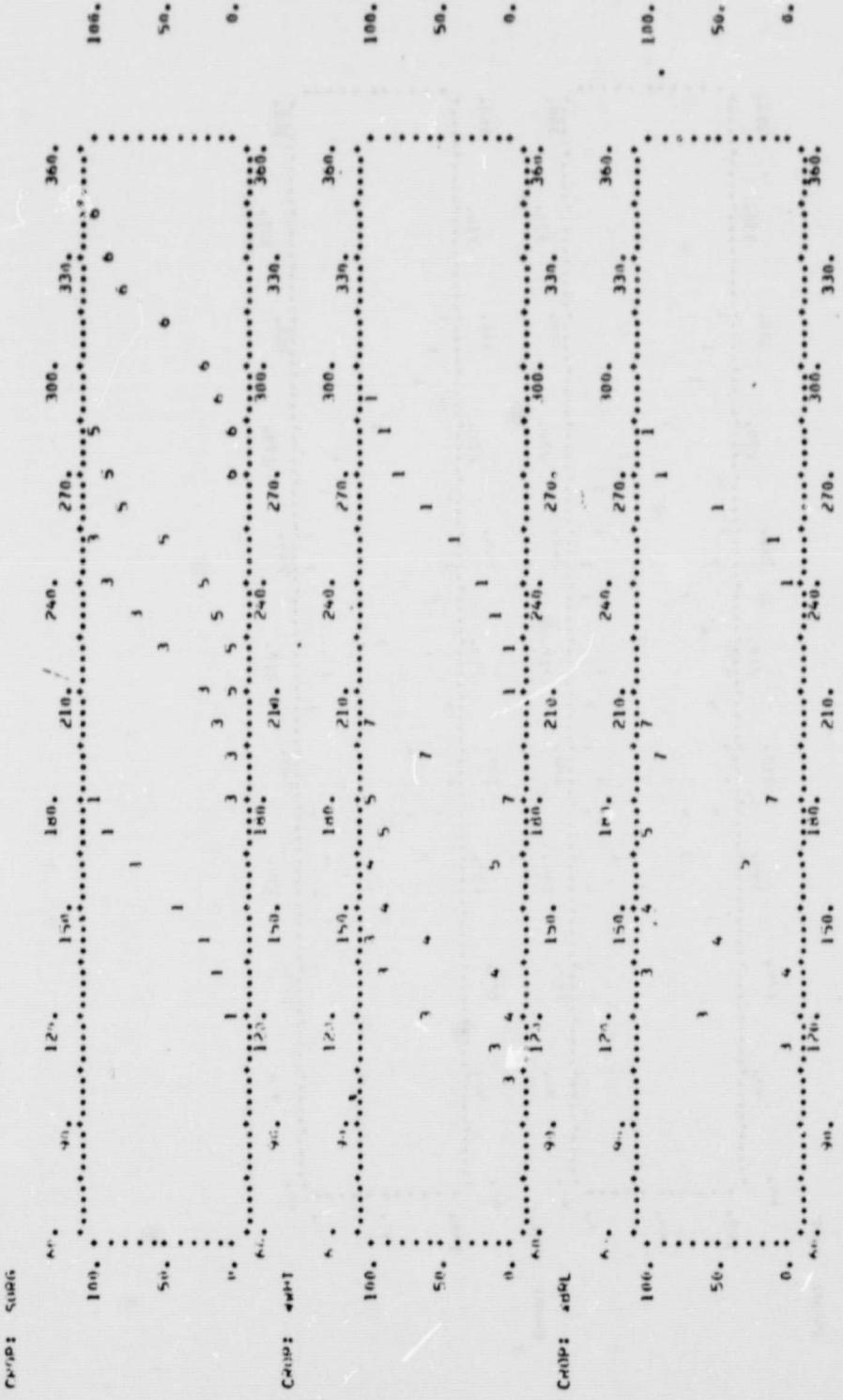
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## NATIONAL CIVILIAN PLATEAU FLOW STAFF CO CO: 4

PAGE 1



APPENDIX C

SAMPLE OF STATISTICAL TREATMENT OF CROP CALENDAR DATA FOR STATES WITH  
WEEKLY DATA: IOWA, KANSAS, MINNOSATA, MONTANA, NEBRASKA,  
NORTH DAKOTA, SOUTH DAKOTA, AND TEXAS

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STATE	CROPS	STAGE	LOGISTIC CURVE		
			YEAR	MEAN	STD DEV
R	CROPS	1	66	50%	90%
R	?	1	67	125.	139.
R	?	1	68	111.	141.
R	?	1	69	117.	140.
R	?	1	70	116.	128.
R	?	1	71	119.	129.
R	?	1	72	115.	130.
R	?	1	73	114.	132.
R	?	1	74	124.	126.
R	?	1	75	109.E*	136.
R	?	1	75	114.	137.
R	?	1	75	123.	143.
R	?	1	75	129.	142.
R	?	1	75	129.	142.
STATE	CROPS	STAGE	YEAR	MEAN	STD DEV
R	CROPS	1	66	50%	90%
R	?	1	67	193.E	10%
R	?	1	68	206.	216.
R	?	1	69	202.	212.
R	?	1	70	149.	211.
R	?	1	71	201.	203.
R	?	1	72	195.	212.
R	?	1	73	203.	207.
R	?	1	74	215.	218.
R	?	1	75	199.E**	227.
R	?	1	75	202.	221.
R	?	1	75	210.	221.
STATE	CROPS	STAGE	YEAR	MEAN	STD DEV
R	CROPS	1	66	50%	90%
R	?	1	67	198.	209.
R	?	1	68	4.92	4.65
R	?	1	69	209.	5.38
R	?	1	70	209.	5.38
R	?	1	71	209.	5.38
R	?	1	72	209.	5.38
R	?	1	73	209.	5.38
R	?	1	74	209.	5.38
R	?	1	75	209.	5.38
STATE	CROPS	STAGE	YEAR	MEAN	STD DEV
R	CROPS	1	66	50%	90%
R	?	1	67	225.E**	225.E**
R	?	1	68	245.	247.
R	?	1	69	247.	255.
R	?	1	70	237.	270.
R	?	1	71	240.	247.
R	?	1	72	230.	254.
R	?	1	73	234.E	252.
R	?	1	74	244.E	259.
R	?	1	75	240.E**	270.E*
R	?	1	75	250.	259.
R	?	1	75	250.	267.
R	?	1	75	250.	267.
STATE	CROPS	STAGE	YEAR	MEAN	STD DEV
R	CROPS	1	66	50%	90%
R	?	1	67	23A.	253.
R	?	1	68	4.41	4.56
R	?	1	69	266.	7.18

Colorado

APPENDIX D

FIFTY-PERCENT DATES FOR STAGES FOR ARKANSAS,  
IOWA, KENTUCKY, LOUISIANA, MICHIGAN, MISSISSIPPI,  
OHIO, AND WISCONSIN

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CROP	STAGE	STATE	CRD	MEAN	STD DEV
2	1.0	5	2	158.	10.4
2	1.0	5	3	168.	16.7
2	1.0	5	4	158.	9.6
2	1.0	5	5	154.	5.9
2	1.0	5	6	158.	7.6
2	1.0	5	7	159.	14.3
2	1.0	5	8	151.	6.9
2	1.0	5	9	154.	3.6
2	1.0	5	10	159.	9.6

CROP	STAGE	STATE	CRD	MEAN	STD DEV
2	7.0	5	2	312.	9.2
2	7.0	5	3	312.	14.3
2	7.0	5	4	312.	10.0
2	7.0	5	5	316.	11.2
2	7.0	5	6	312.	8.3
2	7.0	5	7	311.	7.1
2	7.0	5	8	313.	10.5
2	7.0	5	9	304.	7.7
2	7.0	5	10	313.	7.8

CROP	STAGE	STATE	CRD	MEAN	STD DEV
4	1.0	5	2	133.	16.7
4	1.0	5	3	154.	9.3
4	1.0	5	4	123.	5.7
4	1.0	5	5	121.	6.2
4	1.0	5	6	135.	23.6
4	1.0	5	7	124.	7.8
4	1.0	5	8	138.	15.0
4	1.0	5	10	137.	19.9
4	1.0	5	10	133.	8.1

CROP	STAGE	STATE	CRD	MEAN	STD DEV
4	6.0	5	2	275.	14.7
4	6.0	5	3	276.	20.4
4	6.0	5	4	270.	10.5
4	6.0	5	5	264.	8.4
4	6.0	5	6	281.	19.4
4	6.0	5	7	274.	12.4
4	6.0	5	8	271.	11.3
4	6.0	5	10	284.	15.8
4	6.0	5	10	275.	12.1

Arkansas

ORIGINAL PAGE IS  
OF POOR QUALITY

CROP	STAGE	STATE	CRD	MEAN	STD DEV
8	1.0	5	2	297.	13.1
8	1.0	5	3	287.	12.9
8	1.0	5	4	301.	15.1
8	1.0	5	5	291.	9.2
8	1.0	5	6	304.	11.7
8	1.0	5	7	304.	13.4
8	1.0	5	8	290.	10.4
8	1.0	5	9	306.	16.8
8	1.0	5	10	297.	15.2

CROP	STAGE	STATE	CRD	MEAN	STD DEV
8	7.0	5	2	177.	12.5
8	7.0	5	3	179.	11.2
8	7.0	5	4	181.	14.5
8	7.0	5	5	178.	11.9
8	7.0	5	6	176.	12.9
8	7.0	5	7	178.	11.9
8	7.0	5	8	176.	16.9
8	7.0	5	9	175.	7.4
8	7.0	5	10	174.	10.6

CROP	STAGE	STATE	CRD	MEAN	STD DEV
9	1.0	5	2	123.	7.2
9	1.0	5	3	120.	3.3
9	1.0	5	4	121.	6.2
9	1.0	5	5	131.	5.4
9	1.0	5	6	119.	4.2
9	1.0	5	7	124.	6.0
9	1.0	5	8	124.	9.0
9	1.0	5	9	121.	10.1
9	1.0	5	10	123.	3.0

CROP	STAGE	STATE	CRD	MEAN	STD DEV
9	7.0	5	2	240.	5.7
9	7.0	5	3	240.	5.5
9	7.0	5	4	243.	5.1
9	7.0	5	5	278.	5.1
9	7.0	5	6	277.	6.4
9	7.0	5	7	243.	8.3
9	7.0	5	8	251.	4.9
9	7.0	5	9	278.	4.3
9	7.0	5	10	280.	4.5

Arkansas

ORIGINAL PAGE IS  
OF POOR QUALITY

CROP	STAGE	STATE	CRD	MEAN	STD DEV
10	1.0	5		134.	7.6
10	1.0	5	3	133.	7.2
10	1.0	5	4	133.	7.7
10	1.0	5	5	137.	9.5
10	1.0	5	6	134.	9.4
10	1.0	5	7	137.	9.4
10	1.0	5	8	134.	7.3
10	1.0	5	9	134.	5.3
10	1.0	5	10	134.	6.5

CROP	STAGE	STATE	CRD	MEAN	STD DEV
10	4.0	5		210.	12.2
10	4.0	5	3	207.	16.0
10	4.0	5	4	211.	14.6
10	4.0	5	5	214.	15.9
10	4.0	5	6	203.	10.6
10	4.0	5	7	211.	10.6
10	4.0	5	8	211.	11.1
10	4.0	5	9	208.	12.0
10	4.0	5	10	210.	12.3

CROP	STAGE	STATE	CRD	MEAN	STD DEV
10	5.0	5		275.	11.8
10	5.0	5	3	271.	17.2
10	5.0	5	4	280.	11.9
10	5.0	5	5	270.	9.2
10	5.0	5	6	273.	12.5
10	5.0	5	7	280.	11.6
10	5.0	5	8	274.	12.8
10	5.0	5	9	277.	9.3
10	5.0	5	10	275.	11.4

CROP	STAGE	STATE	CRD	MEAN	STD DEV
10	6.0	5		304.	11.4
10	6.0	5	3	299.	14.3
10	6.0	5	4	304.	8.8
10	6.0	5	5	303.	13.0
10	6.0	5	6	304.	12.3
10	6.0	5	7	311.	12.3
10	6.0	5	8	301.	9.5
10	6.0	5	9	305.	13.2
10	6.0	5	10	304.	10.5

Arkansas

ORIGINAL PAGE IS  
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CROP	STAGE	STATE	CRD	MEAN	STD DEV
1	0.0	19	1	103.	7.5
1	0.0	19	2	100.	5.5
1	0.0	19	3	104.	8.3
1	0.0	19	4	108.	9.0
1	0.0	19	5	103.	10.6
1	0.0	19	6	110.	12.4
1	0.0	19	7	107.	14.2
1	0.0	19	8	109.	19.8
1	0.0	19	9	105.	22.0

CROP	STAGE	STATE	CRD	MEAN	STD DEV
1	1.0	19	1	132.	4.0
1	1.0	19	2	129.	5.5
1	1.0	19	3	135.	5.5
1	1.0	19	4	132.	5.1
1	1.0	19	5	122.	5.9
1	1.0	19	6	136.	6.2
1	1.0	19	7	133.	6.6
1	1.0	19	8	135.	6.4
1	1.0	19	9	136.	7.3

CROP	STAGE	STATE	CRD	MEAN	STD DEV
1	3.0	19	1	205.	5.9
1	3.0	19	2	216.	3.9
1	3.0	19	3	210.	5.1
1	3.0	19	4	215.	3.9
1	3.0	19	5	203.	4.9
1	3.0	19	6	207.	4.8
1	3.0	19	7	205.	4.2
1	3.0	19	8	215.	4.8
1	3.0	19	9	216.	6.0

CROP	STAGE	STATE	CRD	MEAN	STD DEV
1	4.0	19	1	240.	1.4
1	4.0	19	2	249.	2.8
1	4.0	19	3	251.	2.8
1	4.0	19	4	245.	1.4
1	4.0	19	5	248.	0.7
1	4.0	19	6	251.	4.2
1	4.0	19	7	245.	0.7
1	4.0	19	8	250.	2.8
1	4.0	19	9	251.	0.0

Iowa

D-4

ORIGINAL PAGE IS  
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CROP	STAGE	STATE	CRD	MEAN	STD DEV
1	5.0	19	1	257.	6.0
1	5.0	19	2	259.	5.8
1	5.0	19	3	258.	4.6
1	5.0	19	4	258.	4.5
1	5.0	19	5	257.	5.2
1	5.0	19	6	257.	5.5
1	5.0	19	7	256.	4.1
1	5.0	19	8	256.	5.6
1	5.0	19	9	257.	6.1

CROP	STAGE	STATE	CRD	MEAN	STD DEV
1	6.0	19	1	308.	10.3
1	6.0	19	2	310.	8.2
1	6.0	19	3	312.	8.4
1	6.0	19	4	308.	11.5
1	6.0	19	5	309.	8.7
1	6.0	19	6	310.	4.4
1	6.0	19	7	310.	11.2
1	6.0	19	8	312.	8.9
1	6.0	19	9	309.	7.5

CROP	STAGE	STATE	CRD	MEAN	STD DEV
2	0.0	19	1	103.	7.5
2	0.0	19	2	100.	5.5
2	0.0	19	3	109.	8.8
2	0.0	19	4	108.	9.0
2	0.0	19	5	103.	10.5
2	0.0	19	6	110.	12.4
2	0.0	19	7	107.	14.2
2	0.0	19	8	109.	19.8
2	0.0	19	9	105.	22.0

CROP	STAGE	STATE	CRD	MEAN	STD DEV
2	1.0	19	1	145.	3.4
2	1.0	19	2	147.	5.5
2	1.0	19	3	151.	4.6
2	1.0	19	4	146.	4.8
2	1.0	19	5	145.	7.1
2	1.0	19	6	150.	7.8
2	1.0	19	7	146.	5.3
2	1.0	19	8	150.	7.5
2	1.0	19	9	151.	7.8

Iowa

ORIGINAL PAGE IS  
OF POOR QUALITY

CROP	STAGE	STATE	CRD	MEAN	STD DEV
7.0	19	1	216.	5.0	
7.0	19	2	218.	6.5	
7.0	19	3	222.	6.0	
7.0	19	4	217.	5.0	
7.0	19	5	214.	5.2	
7.0	19	6	222.	5.6	
7.0	19	7	217.	4.2	
7.0	19	8	222.	6.5	
7.0	19	9	219.	7.4	

CROP	STAGE	STATE	CRD	MEAN	STD DEV
6.0	19	1	288.	8.7	
6.0	19	2	292.	5.5	
6.0	19	3	294.	6.7	
6.0	19	4	292.	5.3	
6.0	19	5	292.	5.7	
6.0	19	6	295.	6.3	
6.0	19	7	294.	8.0	
6.0	19	8	296.	9.1	
6.0	19	9	293.	6.9	

CROP	STAGE	STATE	CRD	MEAN	STD DEV
5	19	1	104.	7.7	
5	19	2	112.	7.5	
5	19	3	111.	8.1	
5	19	4	106.	7.5	
5	19	5	106.	8.3	
5	19	6	107.	8.0	
5	19	7	105.	11.0	
5	19	8	105.	16.2	
5	19	9	108.	12.0	

CROP	STAGE	STATE	CRD	MEAN	STD DEV
5	19	1	205.	5.2	
5	19	2	210.	6.4	
5	19	3	213.	6.5	
5	19	4	204.	6.9	
5	19	5	207.	6.4	
5	19	6	209.	5.4	
5	19	7	201.	6.7	
5	19	8	204.	6.0	
5	19	9	206.	6.3	

Iowa

ORIGINAL PAGE IS  
OF POOR QUALITY

CROP	STAGE	STATE	CRD	MEAN	STD DEV
1	1.0	21	1	134.	10.6
1	1.0	21	2	128.	13.9
1	1.0	21	3	134.	11.5
1	1.0	21	4	130.	10.5
1	1.0	21	5	140.	9.1
1	1.0	21	6	133.	8.1
1	1.0	21	10	139.	9.7
				134.	9.9

CROP	STAGE	STATE	CRD	MEAN	STD DEV
1	3.0	21	1	200.	6.5
1	3.0	21	2	192.	2.2
1	3.0	21	3	196.	5.5
1	3.0	21	4	200.	7.5
1	3.0	21	5	203.	4.4
1	3.0	21	6	203.	5.5
1	3.0	21	10	203.	5.5
				200.	4.7

CROP	STAGE	STATE	CRD	MEAN	STD DEV
1	3.5	21	1	219.	3.7
1	3.5	21	2	216.	2.4
1	3.5	21	3	216.	2.9
1	3.5	21	4	217.	2.4
1	3.5	21	5	223.	2.9
1	3.5	21	6	220.	3.5
1	3.5	21	7	220.	3.1
1	3.5	21	10	219.	2.4

CROP	STAGE	STATE	CRD	MEAN	STD DEV
1	4.0	21	1	245.	7.0
1	4.0	21	2	238.	10.2
1	4.0	21	3	243.	1.8
1	4.0	21	4	247.	5.0
1	4.0	21	5	249.	5.4
1	4.0	21	6	244.	8.1
1	4.0	21	10	249.	3.4
				245.	4.2

Kentucky

ORIGINAL PAGE IS  
OF POOR QUALITY.

CROP	STAGE	STATE	CRD	MEAN	STD DEV
1	5.0	21	1	266.	6.6
1	5.0	21	2	261.	5.0
1	5.0	21	3	265.	8.1
1	5.0	21	4	265.	9.1
1	5.0	21	5	269.	4.7
1	5.0	21	6	269.	4.7
1	5.0	21	10	266.	5.1

CROP	STAGE	STATE	CRD	MEAN	STD DEV
1	6.0	21	1	296.	9.2
1	6.0	21	2	283.	4.7
1	6.0	21	3	294.	6.5
1	6.0	21	4	297.	3.9
1	6.0	21	5	304.	3.4
1	6.0	21	6	298.	3.4
1	6.0	21	10	296.	3.1

CROP	STAGE	STATE	CRD	MEAN	STD DEV
2	1.0	21	1	159.	7.1
2	1.0	21	2	163.	7.3
2	1.0	21	3	158.	7.1
2	1.0	21	4	160.	7.4
2	1.0	21	5	153.	8.1
2	1.0	21	6	160.	5.8
2	1.0	21	10	158.	6.5
2	1.0	21		159.	5.6

CROP	STAGE	STATE	CRD	MEAN	STD DEV
2	3.0	21	1	218.	7.9
2	3.0	21	2	217.	10.0
2	3.0	21	3	214.	7.1
2	3.0	21	4	221.	7.0
2	3.0	21	5	214.	8.0
2	3.0	21	6	220.	8.1
2	3.0	21	10	218.	6.8

Kentucky

ORIGINAL PAGE IS  
OF POOR QUALITY

CROP	STAGE	STATE	CRD	MEAN	STD DEV
2	4.0	21		227.	7.5
2	4.0	21	1	224.	6.9
2	4.0	21	2	226.	6.5
2	4.0	21	3	225.	6.0
2	4.0	21	4	223.	4.0
2	4.0	21	5	223.	9.2
2	4.0	21	6	234.	6.3
2	4.0	21	10	227.	5.4

CROP	STAGE	STATE	CRD	MEAN	STD DEV
2	5.0	21		281.	5.2
2	5.0	21	1	280.	3.9
2	5.0	21	2	279.	4.3
2	5.0	21	3	281.	1.9
2	5.0	21	4	281.	12.0
2	5.0	21	5	281.	1.9
2	5.0	21	6	281.	1.9
2	5.0	21	10	281.	2.4

CROP	STAGE	STATE	CRD	MEAN	STD DEV
2	6.0	21		305.	6.0
2	6.0	21	1	303.	6.3
2	6.0	21	2	300.	4.8
2	6.0	21	3	305.	3.8
2	6.0	21	4	307.	3.6
2	6.0	21	5	305.	6.0
2	6.0	21	6	312.	4.7
2	6.0	21	10	305.	3.7

Kentucky

ORIGINAL PAGE IS  
OF POOR QUALITY

CROP	STAGE	STATE	CRD	MEAN	STD DEV
1	1.0	22		103.	8.0
1	1.0	22	1	105.	7.7
1	1.0	22	2	106.	6.2
1	1.0	22	3	102.	7.6
1	1.0	22	5	101.	9.8
1	1.0	22	6	104.	8.6
1	1.0	22	7	98.	9.4
1	1.0	22	10	103.	7.3

CROP	STAGE	STATE	CRD	MEAN	STD DEV
1	6.0	22		249.	12.0
1	6.0	22	1	255.	7.2
1	6.0	22	2	255.	16.8
1	6.0	22	3	240.	6.4
1	6.0	22	5	247.	8.9
1	6.0	22	6	258.	10.1
1	6.0	22	7	241.	11.3
1	6.0	22	10	249.	8.6

CROP	STAGE	STATE	CRD	MEAN	STD DEV
2	1.0	22		147.	9.0
2	1.0	22	1	143.	11.4
2	1.0	22	2	150.	14.2
2	1.0	22	3	145.	9.6
2	1.0	22	4	145.	6.4
2	1.0	22	5	143.	7.4
2	1.0	22	6	149.	4.5
2	1.0	22	7	151.	8.0
2	1.0	22	10	147.	8.2

CROP	STAGE	STATE	CRD	MEAN	STD DEV
2	6.0	22		296.	5.6
2	6.0	22	1	301.	4.9
2	6.0	22	2	295.	7.0
2	6.0	22	3	291.	4.9
2	6.0	22	4	300.	1.6
2	6.0	22	5	294.	3.1
2	6.0	22	6	299.	4.2
2	6.0	22	7	291.	3.2
2	6.0	22	10	296.	3.1

CROP	STAGE	STATE	CRD	MEAN	STD DEV
4	1.0	22		149.	13.2
4	1.0	22	3	149.	18.4
4	1.0	22	4	149.	7.4
4	1.0	22	10	149.	12.0

Louisiana

ORIGINAL PAGE IS  
OF POOR QUALITY

CROP	STAGE	STATE	CRD	MEAN	STD DEV
4	6.0	22		266.	10.6
4	6.0	22	3	269.	11.5
4	6.0	22	4	264.	10.2
4	6.0	22	10	266.	9.7

CROP	STAGE	STATE	CRD	MEAN	STD DEV
9	1.0	22		109.	11.4
9	1.0	22	3	122.	10.8
9	1.0	22	5	108.	6.9
9	1.0	22	7	109.	5.1
9	1.0	22	8	108.	9.3
9	1.0	22	10	109.	2.9

CROP	STAGE	STATE	CRD	MEAN	STD DEV
9	7.0	22		244.	15.6
9	7.0	22	3	262.	11.7
9	7.0	22	5	243.	7.4
9	7.0	22	7	225.	3.7
9	7.0	22	8	244.	9.0
9	7.0	22	10	243.	4.9

CROP	STAGE	STATE	CRD	MEAN	STD DEV
10	1.0	22		126.	9.0
10	1.0	22	1	123.	11.6
10	1.0	22	2	127.	7.9
10	1.0	22	3	126.	9.4
10	1.0	22	4	127.	9.1
10	1.0	22	5	127.	10.2
10	1.0	22	10	126.	8.7

CROP	STAGE	STATE	CRD	MEAN	STD DEV
10	6.0	22		297.	8.8
10	6.0	22	1	297.	8.7
10	6.0	22	2	297.	9.2
10	6.0	22	3	297.	11.3
10	6.0	22	4	302.	10.2
10	6.0	22	5	293.	3.9
10	6.0	22	10	297.	8.3

Louisiana

ORIGINAL PAGE IS  
OF POOR QUALITY

CROP	STAGE	STATE	CRD	MEAN	STD DEV
1	1.0	26		143.	5.5
1	1.0	26	1	141.	4.4
1	1.0	26	2	140.	5.8
1	1.0	26	3	148.	6.1
1	1.0	26	4	144.	6.6
1	1.0	26	5	140.	4.4
1	1.0	26	6	140.	4.8
1	1.0	26	7	143.	5.7
1	1.0	26	8	144.	2.2
1	1.0	26	9	147.	4.4
1	1.0	26	10	143.	3.5

CROP	STAGE	STATE	CRD	MEAN	STD DEV
1	3.0	26		214.	6.8
1	3.0	26	1	220.	7.3
1	3.0	26	2	217.	3.6
1	3.0	26	3	217.	4.4
1	3.0	26	4	2214.	9.8
1	3.0	26	5	2211.	6.9
1	3.0	26	6	2211.	5.9
1	3.0	26	7	2213.	7.3
1	3.0	26	8	2213.	6.5
1	3.0	26	9	2213.	7.3
1	3.0	26	10	2214.	6.2

CROP	STAGE	STATE	CRD	MEAN	STD DEV
1	3.5	26		237.	6.8
1	3.5	26	1	248.	8.2
1	3.5	26	2	239.	6.9
1	3.5	26	3	235.	4.4
1	3.5	26	4	239.	6.9
1	3.5	26	5	231.	4.7
1	3.5	26	6	235.	4.7
1	3.5	26	7	235.	4.7
1	3.5	26	8	235.	4.7
1	3.5	26	9	236.	4.3
1	3.5	26	10	237.	4.2

CROP	STAGE	STATE	CRD	MEAN	STD DEV
1	4.0	26		255.	7.5
1	4.0	26	1	263.	5.7
1	4.0	26	2	260.	7.9
1	4.0	26	3	255.	3.8
1	4.0	26	4	257.	12.6
1	4.0	26	5	253.	7.9
1	4.0	26	6	253.	6.9
1	4.0	26	7	252.	4.4
1	4.0	26	8	252.	4.4
1	4.0	26	9	253.	6.9
1	4.0	26	10	255.	5.8

Michigan

ORIGINAL PAGE IS  
OF POOR QUALITY

CROP	STAGE	STATE	CRD	MEAN	STD DEV
1	5.0	26	2	276.	6.5
1	5.0	26	7	271.	3.6
1	5.0	26	8	271.	6.3
1	5.0	26	10	276.	6.0
					3.7

CROP	STAGE	STATE	CRD	MEAN	STD DEV
1	6.0	26	1	308.	7.3
1	6.0	26	2	306.	6.3
1	6.0	26	3	309.	9.1
1	6.0	26	4	308.	11.2
1	6.0	26	5	308.	10.2
1	6.0	26	6	309.	9.1
1	6.0	26	7	309.	8.9
1	6.0	26	8	307.	4.3
1	6.0	26	9	307.	2.6
1	6.0	26	10	309.	5.2
					6.0

CROP	STAGE	STATE	CRD	MEAN	STD DEV
2	4.0	26	4	230.	7.7
2	4.0	26	5	231.	7.4
2	4.0	26	6	232.	8.5
2	4.0	26	7	227.	9.4
2	4.0	26	8	229.	8.6
2	4.0	26	9	228.	8.0
2	4.0	26	10	232.	6.6
					7.2

CROP	STAGE	STATE	CRD	MEAN	STD DEV
2	5.0	26	4	264.	8.1
2	5.0	26	5	255.	6.3
2	5.0	26	6	274.	7.9
2	5.0	26	7	270.	4.7
2	5.0	26	8	273.	4.8
2	5.0	26	9	259.	4.7
2	5.0	26	10	267.	6.4
					1.8

CROP	STAGE	STATE	CRD	MEAN	STD DEV
2	6.0	26	4	299.	7.7
2	6.0	26	5	300.	10.4
2	6.0	26	6	297.	5.7
2	6.0	26	7	305.	11.0
2	6.0	26	8	301.	4.4
2	6.0	26	9	295.	5.8
2	6.0	26	10	299.	4.0
					5.6

Michigan

ORIGINAL PAGE IS  
OF POOR QUALITY

CROP	STAGE	STATE	CRD	MEAN	STD DEV
S	1.0	26	1	126.	9.3
	1.0	26	2	136.	5.0
	1.0	26	3	129.	7.3
	1.0	26	4	126.	9.1
	1.0	26	5	124.	9.5
	1.0	26	6	126.	11.0
	1.0	26	7	122.	10.6
	1.0	26	8	124.	9.2
	1.0	26	9	124.	10.6
	1.0	26	10	126.	8.8

CROP	STAGE	STATE	CRD	MEAN	STD DEV
S	4.0	26	1	184.	7.2
	4.0	26	2	196.	4.4
	4.0	26	3	189.	3.6
	4.0	26	4	189.	4.3
	4.0	26	5	183.	7.2
	4.0	26	6	182.	4.3
	4.0	26	7	178.	4.8
	4.0	26	8	180.	5.0
	4.0	26	9	182.	7.3
	4.0	26	10	184.	4.5

CROP	STAGE	STATE	CRD	MEAN	STD DEV
S	7.0	26	1	224.	8.0
	7.0	26	2	235.	9.4
	7.0	26	3	228.	4.7
	7.0	26	4	229.	8.0
	7.0	26	5	224.	8.9
	7.0	26	6	224.	8.9
	7.0	26	7	221.	6.0
	7.0	26	8	220.	4.3
	7.0	26	9	220.	4.3
	7.0	26	10	224.	4.9

CROP	STAGE	STATE	CRD	MEAN	STD DEV
B	1.0	26	1	274.	7.9
	1.0	26	2	264.	7.6
	1.0	26	3	265.	2.4
	1.0	26	4	267.	3.0
	1.0	26	5	274.	5.2
	1.0	26	6	277.	11.2
	1.0	26	7	278.	6.2
	1.0	26	8	280.	2.4
	1.0	26	9	280.	6.4
	1.0	26	10	274.	6.7

Michigan

ORIGINAL PAGE IS  
OF POOR QUALITY

CROP	STAGE	STATE	CRD	MEAN	STD DEV
8	4.0	26		165.	8.2
	4.0	26	1	174.	6.0
	4.0	26	2	165.	6.0
	4.0	26	3	166.	7.1
	4.0	26	4	165.	6.0
	4.0	26	5	164.	9.0
	4.0	26	6	165.	6.0
	4.0	26	7	159.	8.2
	4.0	26	8	161.	6.1
	4.0	26	9	164.	6.8
B	4.0	26	10	165.	5.8

CROP	STAGE	STATE	CRD	MEAN	STD DEV
8	6.0	26		188.	6.1
	6.0	26	1	194.	3.2
	6.0	26	2	190.	3.2
	6.0	26	3	190.	3.2
	6.0	26	4	186.	6.6
	6.0	26	5	185.	5.0
	6.0	26	6	189.	4.0
	6.0	26	7	183.	6.4
	6.0	26	8	187.	6.8
	6.0	26	9	187.	6.8
A	6.0	26	10	188.	4.6

CROP	STAGE	STATE	CRD	MEAN	STD DEV
8	7.0	26		215.	10.5
	7.0	26	1	218.	8.1
	7.0	26	2	217.	7.9
	7.0	26	3	220.	5.0
	7.0	26	4	215.	8.0
	7.0	26	5	210.	8.3
	7.0	26	6	210.	8.3
	7.0	26	7	215.	15.7
	7.0	26	8	215.	15.7
	7.0	26	9	215.	15.7
A	7.0	26	10	215.	9.3

CROP	STAGE	STATE	CRD	MEAN	STD DEV
12	1.0	26		174.	8.4
	1.0	26	1	186.	7.3
	1.0	26	2	183.	4.4
	1.0	26	3	185.	6.5
	1.0	26	4	178.	6.3
	1.0	26	5	176.	8.3
	1.0	26	6	173.	7.3
	1.0	26	7	173.	7.3
	1.0	26	8	172.	7.6
	1.0	26	9	172.	7.6
12	1.0	26	10	178.	6.6

Michigan

ORIGINAL PAGE IS  
OF POOR QUALITY

CROP	STAGE	STATE	CRD	MEAN	STD DEV
12	2.0	26	1	219.	9.7
12	2.0	26	2	229.	12.0
12	2.0	26	3	227.	9.9
12	2.0	26	4	220.	6.5
12	2.0	26	5	217.	9.8
12	2.0	26	6	214.	6.6
12	2.0	26	7	214.	6.6
12	2.0	26	8	213.	6.5
12	2.0	26	9	214.	4.7
12	2.0	26	10	219.	7.5

Michigan

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ORIGINAL PAGE IS  
OF POOR QUALITY

CROP	STAGE	STATE	CRD	MEAN	STD DEV
	1.0	28		111.	12.3
	1.00	28		103.	7.8
	1.00	28	1	117.	9.7
	1.00	28	2	123.	10.3
	1.00	28	3	108.	11.2
	1.00	28	4	120.	15.8
	1.00	28	5	115.	11.3
	1.00	28	6	110.	10.6
	1.00	28	7	104.	7.2
	1.00	28	8	99.	5.8
	1.00	28	9	111.	8.3
	1.0	28	10		

CROP	STAGE	STATE	CRD	MEAN	STD DEV
	4.0	28		217.	8.9
	4.00	28		225.	10.4
	4.00	28	1	219.	4.6
	4.00	28	2	224.	11.9
	4.00	28	3	225.	8.6
	4.00	28	4	223.	13.1
	4.00	28	5	227.	5.3
	4.00	28	6	222.	5.8
	4.00	28	7	210.	4.9
	4.00	28	8	225.	6.8
	4.00	28	9	222.	6.6
	4.00	28	10	217.	

CROP	STAGE	STATE	CRD	MEAN	STD DEV
	5.0	28		237.	10.1
	5.00	28		235.	10.1
	5.00	28	1	246.	8.6
	5.00	28	2	245.	10.4
	5.00	28	3	232.	9.3
	5.00	28	4	245.	10.3
	5.00	28	5	239.	7.8
	5.00	28	6	231.	8.1
	5.00	28	7	234.	5.8
	5.00	28	8	228.	6.5
	5.00	28	9	237.	7.0
	5.00	28	10		

CROP	STAGE	STATE	CRD	MEAN	STD DEV
	6.0	28		274.	12.9
	6.00	28		274.	10.4
	6.00	28	1	274.	10.1
	6.00	28	2	286.	14.1
	6.00	28	3	258.	14.3
	6.00	28	4	278.	13.9
	6.00	28	5	276.	11.1
	6.00	28	6	266.	8.9
	6.00	28	7	279.	10.4
	6.00	28	8	276.	9.6
	6.00	28	9	274.	9.7
	6.00	28	10		

Mississippi

ORIGINAL PAGE IS  
OF POOR QUALITY

CROP	STAGE	STATE	CRD	MEAN	STD DEV
2	1.0	28	1	153.	10.4
	1.0	28		155.	19.0
	1.0	28		156.	14.2
	1.0	28		158.	16.1
	1.0	28		159.	19.2
	1.0	28		157.	9.0
	1.0	28		147.	5.5
	1.0	28		152.	4.6
	1.0	28		150.	4.0
	1.0	28		153.	6.5
CROP	STAGE	STATE	CRD	MEAN	STD DEV
3	3.0	28	1	210.	7.8
	3.0	28		210.	13.4
	3.0	28		212.	9.8
	3.0	28		216.	7.9
	3.0	28		214.	8.2
	3.0	28		208.	5.8
	3.0	28		209.	4.5
	3.0	28		204.	3.9
	3.0	28		210.	7.5
	3.0	28		207.	2.2
CROP	STAGE	STATE	CRD	MEAN	STD DEV
4	4.0	28	1	226.	5.8
	4.0	28		229.	7.5
	4.0	28		227.	7.3
	4.0	28		232.	3.7
	4.0	28		231.	5.4
	4.0	28		224.	4.9
	4.0	28		222.	4.6
	4.0	28		225.	3.0
	4.0	28		223.	3.0
	4.0	28		222.	2.2
CROP	STAGE	STATE	CRD	MEAN	STD DEV
5	5.0	28	1	270.	9.3
	5.0	28		274.	12.8
	5.0	28		274.	12.9
	5.0	28		272.	12.8
	5.0	28		271.	8.9
	5.0	28		269.	6.8
	5.0	28		266.	8.1
	5.0	28		269.	6.1
	5.0	28		267.	8.9
	5.0	28		265.	6.7
	5.0	28		270.	8.4

Mississippi

ORIGINAL PAGE IS  
OF POOR QUALITY

CROP	STAGE	STATE	CRD	MEAN	STD DEV
2	6.0	28		304.	7.4
	6.0	28	1	310.	11.7
	6.0	28	2	307.	6.9
	6.0	28	3	310.	6.9
	6.0	28	4	301.	5.9
	6.0	28	5	303.	5.3
	6.0	28	6	303.	5.5
	6.0	28	7	301.	4.6
	6.0	28	8	302.	9.3
	6.0	28	9	302.	6.6
	6.0	28	10	304.	5.1

CROP	STAGE	STATE	CRD	MEAN	STD DEV
4	1.0	28		146.	10.4
4	1.00	28	1	143.11	7.8
4	1.000	28	2	149.11	13.7
4	1.0000	28	3	149.11	10.1
4	1.00000	28	4	141.11	6.7
4	1.000000	28	5	142.11	2.8
4	1.0000000	28	6	154.214	23.9
4	1.00000000	28	7	145.225	5.5
4	1.000000000	28	8	147.219	5.9
4	1.0000000000	28	9	143.217	4.6
4	1.00000000000	28	10	146.	5.3

CROP	STAGE	STATE	CRD	MEAN	STD DEV
4	5.0	28		240.	9.8
4	5.00	28	1	239.	8.1
4	5.000	28	2	236.	6.9
4	5.0000	28	3	240.	12.2
4	5.00000	28	4	243.	10.1
4	5.000000	28	5	239.	10.3
4	5.0000000	28	6	240.	12.9
4	5.00000000	28	7	244.	11.8
4	5.000000000	28	8	240.	11.5
4	5.0000000000	28	9	240.	10.1
4	5.00000000000	28	10	240.	8.6

CROP	STAGE	STATE	CRD	MEAN	STD DEV
4	6.0	28		265.	10.9
4	6.00	28	1	261.	16.3
4	6.000	28	2	267.	9.6
4	6.0000	28	3	265.	14.2
4	6.00000	28	4	265.	8.5
4	6.000000	28	5	265.	8.9
4	6.0000000	28	6	268.	5.3
4	6.00000000	28	7	268.	9.32
4	6.000000000	28	8	266.	13.8
4	6.0000000000	28	9	258.	15.5
4	6.00000000000	28	10	265.	15.5

Mississippi

ORIGINAL PAGE IS  
OF POOR QUALITY

CROP	STAGE	STATE	CRD	MEAN	STD DEV
10	2.0	2A		177.	8.7
100	2.0	2A	1	177.	8.4
100	2.0	2A	2	179.	7.2
100	2.0	2A	3	183.	7.9
100	2.0	2A	4	178.	10.5
100	2.0	2A	5	178.	10.4
100	2.0	2A	6	177.	15.1
100	2.0	2A	7	175.	16.1
100	2.0	2A	8	173.	9.1
100	2.0	2A	9	174.	11.5
10	2.0	2A	10	177.	8.0

CROP	STAGE	STATE	CRD	MEAN	STD DEV
10	4.0	2A		205.	9.9
100	4.0	2A	1	205.	11.5
100	4.0	2A	2	205.	11.8
100	4.0	2A	3	212.	9.2
100	4.0	2A	4	198.	14.0
100	4.0	2A	5	207.	8.8
100	4.0	2A	6	210.	7.5
100	4.0	2A	7	201.	6.3
100	4.0	2A	8	204.	8.6
100	4.0	2A	9	202.	12.2
10	4.0	2A	10	205.	8.8

CROP	STAGE	STATE	CRD	MEAN	STD DEV
10	5.0	2A		257.	12.8
100	5.0	2A	1	256.	14.3
100	5.0	2A	2	263.	19.4
100	5.0	2A	3	261.	14.3
100	5.0	2A	4	255.	12.5
100	5.0	2A	5	257.	12.7
100	5.0	2A	6	260.	13.7
100	5.0	2A	7	255.	13.0
100	5.0	2A	8	254.	12.6
100	5.0	2A	9	251.	7.5
10	5.0	2A	10	257.	12.2

Mississippi

ORIGINAL PAGE IS  
OF POOR QUALITY

CROP	STAGE	STATE	CRD	MEAN	STD DEV
9	1.0	28		118.	11.1
9	1.0	28	1	117.	19.1
9	1.0	28	4	120.	13.8
9	1.0	28	10	118.	11.4

CROP	STAGE	STATE	CRD	MEAN	STD DEV
9	2.0	28		132.	9.3
9	2.0	28	1	133.	7.5
9	2.0	28	4	131.	11.7
9	2.0	28	10	132.	19.1

CROP	STAGE	STATE	CRD	MEAN	STD DEV
9	4.0	28		225.	8.1
9	4.0	28	1	229.	6.3
9	4.0	28	4	221.	8.4
9	4.0	28	10	225.	6.8

CROP	STAGE	STATE	CRD	MEAN	STD DEV
9	7.0	28		273.	7.5
9	7.0	28	1	273.	8.1
9	7.0	28	4	273.	7.9
9	7.0	28	10	273.	7.0

CROP	STAGE	STATE	CRD	MEAN	STD DEV
10	1.0	28		126.	9.0
10	1.0	28	1	124.	8.5
10	1.0	28	2	128.	7.8
10	1.0	28	3	132.	8.3
10	1.0	28	4	124.	8.1
10	1.0	28	5	127.	8.9
10	1.0	28	6	124.	10.7
10	1.0	28	7	129.	9.1
10	1.0	28	8	127.	9.2
10	1.0	28	9	121.	12.7
10	1.0	28	10	126.	8.4

Mississippi

ORIGINAL PAGE IS  
OF POOR QUALITY

CROP	STAGE	STATE	CRD	MEAN	STD DEV
1	1.0	39		138.	8.3
1	1.0	39		135.	5.6
1	1.0	39	1	139.	9.2
1	1.0	39	2	142.	8.3
1	1.0	39	3	137.	9.4
1	1.0	39	4	135.	9.2
1	1.0	39	5	138.	9.1
1	1.0	39	6	139.	9.7
1	1.0	39	7	139.	10.4
1	1.0	39	8	139.	9.8
1	1.0	39	9	138.	8.8
1	1.0	39	10	138.	

CROP	STAGE	STATE	CRD	MEAN	STD DEV
1	3.0	39		206.	3.8
1	3.0	39		205.	2.9
1	3.0	39	1	206.	2.6
1	3.0	39	2	211.	2.9
1	3.0	39	3	205.	3.8
1	3.0	39	4	206.	4.3
1	3.0	39	5	207.	4.4
1	3.0	39	6	204.	3.8
1	3.0	39	7	208.	5.0
1	3.0	39	8	208.	3.0
1	3.0	39	9	206.	3.1
1	3.0	39	10	206.	

CROP	STAGE	STATE	CRD	MEAN	STD DEV
1	3.5	39		228.	5.1
1	3.5	39	1	227.	4.7
1	3.5	39	2	229.	6.1
1	3.5	39	3	234.	5.7
1	3.5	39	4	226.	3.4
1	3.5	39	5	229.	3.6
1	3.5	39	6	228.	5.5
1	3.5	39	7	224.	4.3
1	3.5	39	8	225.	5.0
1	3.5	39	9	229.	4.6
1	3.5	39	10	228.	4.2

CROP	STAGE	STATE	CRD	MEAN	STD DEV
1	4.0	39		243.	7.1
1	4.0	39	1	241.	6.2
1	4.0	39	2	242.	7.6
1	4.0	39	3	250.	4.4
1	4.0	39	4	241.	8.3
1	4.0	39	5	245.	4.9
1	4.0	39	6	246.	5.0
1	4.0	39	7	240.	9.2
1	4.0	39	8	244.	9.6
1	4.0	39	9	242.	7.6
1	4.0	39	10	243.	6.5

Ohio

ORIGINAL PAGE IS  
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CROP	STAGE	STATE	CRD	MEAN	STD DEV
1	5.0	39	1	263.	6.3
1	5.0	39	2	260.	2.2
1	5.0	39	3	265.	4.7
1	5.0	39	4	258.	1.4
1	5.0	39	5	261.	3.7
1	5.0	39	6	264.	6.3
1	5.0	39	7	267.	9.1
1	5.0	39	8	255.	8.2
1	5.0	39	9	254.	6.4
1	5.0	39	10	264.	4.7
1	5.0	39		263.	2.8

CROP	STAGE	STATE	CRD	MEAN	STD DEV
1	6.0	39	1	307.	4.6
1	6.0	39	2	301.	7.5
1	6.0	39	3	309.	4.5
1	6.0	39	4	310.	4.3
1	6.0	39	5	305.	1.9
1	6.0	39	6	309.	3.0
1	6.0	39	7	306.	2.8
1	6.0	39	8	305.	1.9
1	6.0	39	9	309.	4.5
1	6.0	39	10	308.	5.4
1	6.0	39		307.	2.2

CROP	STAGE	STATE	CRD	MEAN	STD DEV
2	1.0	39	1	148.	6.8
2	1.0	39	2	147.	7.5
2	1.0	34	3	149.	7.7
2	1.0	34	4	151.	5.9
2	1.0	39	5	145.	7.8
2	1.0	39	6	144.	7.2
2	1.0	39	7	150.	7.4
2	1.0	39	8	146.	7.7
2	1.0	39	9	150.	6.5
2	1.0	39	10	152.	5.9
2	1.0	39		148.	7.0

CROP	STAGE	STATE	CRD	MEAN	STD DEV
2	3.0	39	1	211.	5.2
2	3.0	39	2	211.	5.4
2	3.0	39	3	214.	5.6
2	3.0	39	4	213.	6.1
2	3.0	39	5	210.	5.9
2	3.0	39	6	209.	4.5
2	3.0	39	7	211.	6.7
2	3.0	39	8	211.	5.2
2	3.0	39	9	211.	5.1
2	3.0	39	10	211.	5.4

Ohio

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CROP	STAGE	STATE	CRD	MEAN	STD DEV
Z	4.0	39	1	235.	4.2
	4.0	39	2	234.	2.9
	4.0	39	3	236.	3.6
	4.0	39	4	237.	1.3
	4.0	39	5	235.	2.9
	4.0	39	6	236.	4.8
	4.0	39	7	235.	3.2
	4.0	39	8	230.	5.1
	4.0	39	9	234.	7.0
	4.0	39	10	235.	3.4

CROP	STAGE	STATE	CRD	MEAN	STD DEV
Z	5.0	39	1	263.	6.4
	5.0	39	2	259.	3.4
	5.0	39	3	267.	5.7
	5.0	39	4	269.	9.3
	5.0	39	5	259.	4.3
	5.0	39	6	266.	6.7
	5.0	39	7	267.	8.8
	5.0	39	8	259.	4.4
	5.0	39	9	260.	5.4
	5.0	39	10	264.	6.6

CROP	STAGE	STATE	CRD	MEAN	STD DEV
Z	6.0	39	1	295.	4.0
	6.0	39	2	291.	2.4
	6.0	39	3	245.	2.9
	6.0	39	4	249.	3.3
	6.0	39	5	293.	3.5
	6.0	39	6	294.	3.4
	6.0	39	7	298.	4.0
	6.0	39	8	294.	4.4
	6.0	39	9	296.	3.9
	6.0	39	10	295.	3.4

CROP	STAGE	STATE	CRD	MEAN	STD DEV
H	1.0	39	1	289.	5.6
	1.0	39	2	287.	4.4
	1.0	39	3	285.	1.9
	1.0	39	4	286.	5.4
	1.0	39	5	285.	3.5
	1.0	39	6	290.	2.2
	1.0	39	7	284.	7.1
	1.0	39	8	240.	2.4
	1.0	39	9	296.	3.9
	1.0	39	10	295.	3.2

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CROP	STAGE	STATE	CRD	MEAN	STD DEV
R	2.0	39		301.	4.0
R	2.0	39	1	300.	1.7
R	2.0	39	2	300.	4.6
R	2.0	39	3	300.	5.1
R	2.0	39	4	299.	5.9
R	2.0	39	5	302.	5.6
R	2.0	39	6	300.	5.5
R	2.0	39	7	301.	2.4
R	2.0	39	8	304.	6.4
R	2.0	39	9	305.	3.9
R	2.0	39	10	301.	1.2

CROP	STAGE	STATE	CRD	MEAN	STD DEV
R	4.0	39		150.	6.4
R	4.0	39	1	151.	5.9
R	4.0	39	2	153.	5.7
R	4.0	39	3	156.	7.1
R	4.0	39	4	147.	5.6
R	4.0	39	5	150.	5.3
R	4.0	39	6	150.	5.0
R	4.0	39	7	147.	6.6
R	4.0	39	8	146.	5.3
R	4.0	39	9	150.	2.9
R	4.0	39	10	150.	6.0

CROP	STAGE	STATE	CRD	MEAN	STD DEV
R	6.0	39		173.	5.1
R	6.0	39	1	173.	5.5
R	6.0	39	2	175.	2.8
R	6.0	39	3	177.	3.1
R	6.0	39	4	171.	6.6
R	6.0	39	5	172.	6.2
R	6.0	39	6	175.	3.0
R	6.0	39	7	172.	6.6
R	6.0	39	8	168.	3.7
R	6.0	39	9	175.	5.8
R	6.0	39	10	173.	4.5

CROP	STAGE	STATE	CRD	MEAN	STD DEV
R	7.0	39		198.	6.0
R	7.0	39	1	196. <sup>274</sup>	4.2
R	7.0	39	2	200. <sup>220</sup>	3.8
R	7.0	39	3	207. <sup>221</sup>	3.2
R	7.0	39	4	193. <sup>212</sup>	5.3
R	7.0	39	5	195. <sup>211</sup>	4.1
R	7.0	39	6	201. <sup>222</sup>	4.3
R	7.0	39	7	194. <sup>213</sup>	3.5
R	7.0	39	8	195. <sup>214</sup>	3.3
R	7.0	39	9	200. <sup>224</sup>	3.0
R	7.0	39	10	198.	3.4

Ohio

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CROP	STAGE	STATE	CRD	MEAN	STD DEV
11	1.0	39	1	162.	7.3
11	1.0	39	2	160.	6.2
11	1.0	39	3	160.	5.4
11	1.0	39	4	157.	9.1
11	1.0	39	5	159.	6.9
11	1.0	39	6	164.	6.2
11	1.0	39	7	161.	5.7
11	1.0	39	8	167.	3.1
11	1.0	39	9	164.	9.2
11	1.0	39	10	162.	6.8

CROP	STAGE	STATE	CRD	MEAN	STD DEV
11	2.0	39	1	202.	6.6
11	2.0	39	2	197.	4.2
11	2.0	39	3	202.	5.0
11	2.0	39	4	211.	5.7
11	2.0	39	5	197.	4.1
11	2.0	39	6	199.	3.9
11	2.0	39	7	216.	3.7
11	2.0	39	8	194.	7.9
11	2.0	39	9	198.	5.6
11	2.0	39	10	207.	4.7
11	2.0	39	10	202.	3.7

CROP	STAGE	STATE	CRD	MEAN	STD DEV
12	1.0	39	1	168.	6.9
12	1.0	39	2	167.	9.0
12	1.0	39	3	170.	8.3
12	1.0	39	4	173.	6.9
12	1.0	39	5	166.	8.3
12	1.0	39	6	169.	4.6
12	1.0	39	7	169.	9.1
12	1.0	39	8	167.	5.4
12	1.0	39	9	165.	5.2
12	1.0	39	10	169.	7.8
12	1.0	39	10	168.	6.5

CROP	STAGE	STATE	CRD	MEAN	STD DEV
12	2.0	39	1	213.	6.3
12	2.0	39	2	211.	6.1
12	2.0	39	3	214.	5.3
12	2.0	39	4	220.	7.5
12	2.0	39	5	206.	4.8
12	2.0	39	6	212.	1.4
12	2.0	39	7	214.	3.9
12	2.0	39	8	209.	7.5
12	2.0	39	9	216.	5.4
12	2.0	39	10	215.	5.1
12	2.0	39	10	213.	2.6

Ohio

ORIGINAL PAGE IS  
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CROP	STAGE	STATE	CRD	MEAN	STD DEV
1	1.0	55	1	139.	5.5
1	1.0	55	2	140.	4.7
1	1.0	55	3	141.	4.4
1	1.0	55	4	142.	3.8
1	1.0	55	5	138.	4.3
1	1.0	55	6	139.	4.3
1	1.0	55	7	140.	6.2
1	1.0	55	8	137.	7.2
1	1.0	55	9	138.	7.2
1	1.0	55	10	140.	7.3

CROP	STAGE	STATE	CRD	MEAN	STD DEV
1	3.0	55	1	211.	7.0
1	3.0	55	2	212.	7.0
1	3.0	55	3	212.	7.3
1	3.0	55	4	215.	5.8
1	3.0	55	5	207.	8.0
1	3.0	55	6	210.	7.8
1	3.0	55	7	212.	7.2
1	3.0	55	8	207.	8.6
1	3.0	55	9	208.	6.7
1	3.0	55	10	211.	7.0

CROP	STAGE	STATE	CRD	MEAN	STD DEV
1	3.5	55	1	236.	9.4
1	3.5	55	2	239.	8.9
1	3.5	55	3	240.	9.3
1	3.5	55	4	242.	7.2
1	3.5	55	5	231.	9.4
1	3.5	55	6	237.	10.5
1	3.5	55	7	239.	9.8
1	3.5	55	8	232.	10.6
1	3.5	55	9	232.	9.0
1	3.5	55	10	234.	9.6

CROP	STAGE	STATE	CRD	MEAN	STD DEV
1	4.0	55	1	247.	8.7
1	4.0	55	2	249.	11.4
1	4.0	55	3	250.	9.3
1	4.0	55	4	251.	6.2
1	4.0	55	5	242.	10.0
1	4.0	55	6	246.	9.4
1	4.0	55	7	247.	7.9
1	4.0	55	8	244.	9.0
1	4.0	55	9	244.	8.0
1	4.0	55	10	246.	9.2

Wisconsin

ORIGINAL PAGE IS  
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CROP	STAGE	STATE	CRD	MEAN	STD DEV
1	5.0	55	1	254.	8.0
1	5.0	55	2	255.	8.2
1	5.0	55	3	258.	8.8
1	5.0	55	4	258.	6.6
1	5.0	55	5	250.	10.6
1	5.0	55	6	253.	7.7
1	5.0	55	7	255.	8.8
1	5.0	55	8	251.	8.7
1	5.0	55	9	251.	6.9
1	5.0	55	10	254.	7.4

CROP	STAGE	STATE	CRD	MEAN	STD DEV
1	6.0	55	1	301.	7.1
1	6.0	55	2	301.	5.7
1	6.0	55	3	302.	4.0
1	6.0	55	4	303.	10.5
1	6.0	55	5	299.	5.4
1	6.0	55	6	298.	8.0
1	6.0	55	7	299.	7.6
1	6.0	55	8	301.	5.3
1	6.0	55	9	302.	5.5
1	6.0	55	10	306.	6.5

CROP	STAGE	STATE	CRD	MEAN	STD DEV
2	1.0	55	1	150.	5.5
2	1.0	55	2	150.	4.9
2	1.0	55	3	153.	4.5
2	1.0	55	4	153.	3.7
2	1.0	55	5	151.	3.4
2	1.0	55	6	149.	4.0
2	1.0	55	7	148.	6.5
2	1.0	55	8	151.	6.1
2	1.0	55	9	149.	8.7
2	1.0	55	10	150.	7.2

CROP	STAGE	STATE	CRD	MEAN	STD DEV
2	5.0	55	1	269.	5.2
2	5.0	55	2	270.	6.1
2	5.0	55	3	273.	5.3
2	5.0	55	4	273.	5.9
2	5.0	55	5	266.	4.4
2	5.0	55	6	267.	5.6
2	5.0	55	7	263.	4.5
2	5.0	55	8	266.	5.0
2	5.0	55	9	269.	3.4
2	5.0	55	10	268.	3.7

Wisconsin

ORIGINAL PAGE IS  
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CROP	STAGE	STATE	CRD	MEAN	STD DEV
2	6.0	55	1	299.	5.8
	6.0	55		294.	4.9
	6.0	55		302.	6.9
	6.0	55		303.	5.9
	6.0	55		298.	5.4
	6.0	55		298.	5.0
	6.0	55		297.	6.3
	6.0	55		299.	5.8
	6.0	55		297.	4.8
	6.0	55		295.	7.5

CROP	STAGE	STATE	CRD	MEAN	STD DEV
5	1.0	55	1	122.	9.0
	1.0	55		124.	6.0
	1.0	55		124.	5.4
	1.0	55		127.	6.6
	1.0	55		120.	7.6
	1.0	55		124.	6.8
	1.0	55		125.	8.2
	1.0	55		117.	10.3
	1.0	55		116.	10.4
	1.0	55		115.	12.8

CROP	STAGE	STATE	CRD	MEAN	STD DEV
5	4.0	55	1	180.	7.7
	4.0	55		183.	6.2
	4.0	55		185.	6.5
	4.0	55		184.	4.8
	4.0	55		176.	7.9
	4.0	55		180.	7.6
	4.0	55		183.	7.2
	4.0	55		176.	9.4
	4.0	55		176.	8.5
	4.0	55		176.	8.3

CROP	STAGE	STATE	CRD	MEAN	STD DEV
5	7.0	55	1	223.	7.0
	7.0	55		225.	6.7
	7.0	55		230.	4.6
	7.0	55		232.	6.1
	7.0	55		219.	4.7
	7.0	55		223.	5.4
	7.0	55		226.	4.8
	7.0	55		218.	5.8
	7.0	55		219.	5.5
	7.0	55		219.	6.3

Wisconsin

ORIGINAL PAGE IS  
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CROP	STAGE	STATE	CRD	MEAN	STD DEV
	1.0	55		174.	7.8
	1.0	55	1	178.	7.6
	1.0	55	2	177.	5.6
	1.0	55	3	179.	5.7
	1.0	55	4	172.	8.3
	1.0	55	5	175.	6.6
	1.0	55	6	174.	6.4
	1.0	55	7	171.	9.7
	1.0	55	8	171.	10.5
	1.0	55	9	172.	9.5
	1.0	55	10	174.	7.6

CROP	STAGE	STATE	CRD	MEAN	STD DEV
	2.0	55		218.	9.9
	2.0	55	1	224.	8.4
	2.0	55	2	225.	9.2
	2.0	55	3	227.	10.3
	2.0	55	4	214.	9.0
	2.0	55	5	219.	9.9
	2.0	55	6	215.	7.3
	2.0	55	7	215.	7.9
	2.0	55	8	211.	7.9
	2.0	55	9	213.	9.9
	2.0	55	10	218.	8.6

Wisconsin

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